

Idaho and Southwestern Montana Greater Sage-Grouse Draft Land Use Plan Amendment and Environmental Impact Statement Volume II



Forest Service

BLM

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Volume Three

APPENDICES

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B	Reasonably Foreseeable Development Scenario for Greater Sage-Grouse Habitat in Idaho and Southwest Montana Sub-Region
C	Greater Sage-Grouse Habitat Required Design Features and Best Management Practices
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N	Draft Wildlife and Sensitive Plant Specialists Report
O	List of Wildlife Species within the BLM Dillon Field Office, Montana
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Q	Detailed Employment and Earnings Data
R	Economic Impact Analysis Methodology
S	Non-Market Valuation Methods

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Chapter 1

Introduction



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Chapter 1. Introduction

1.1 Background

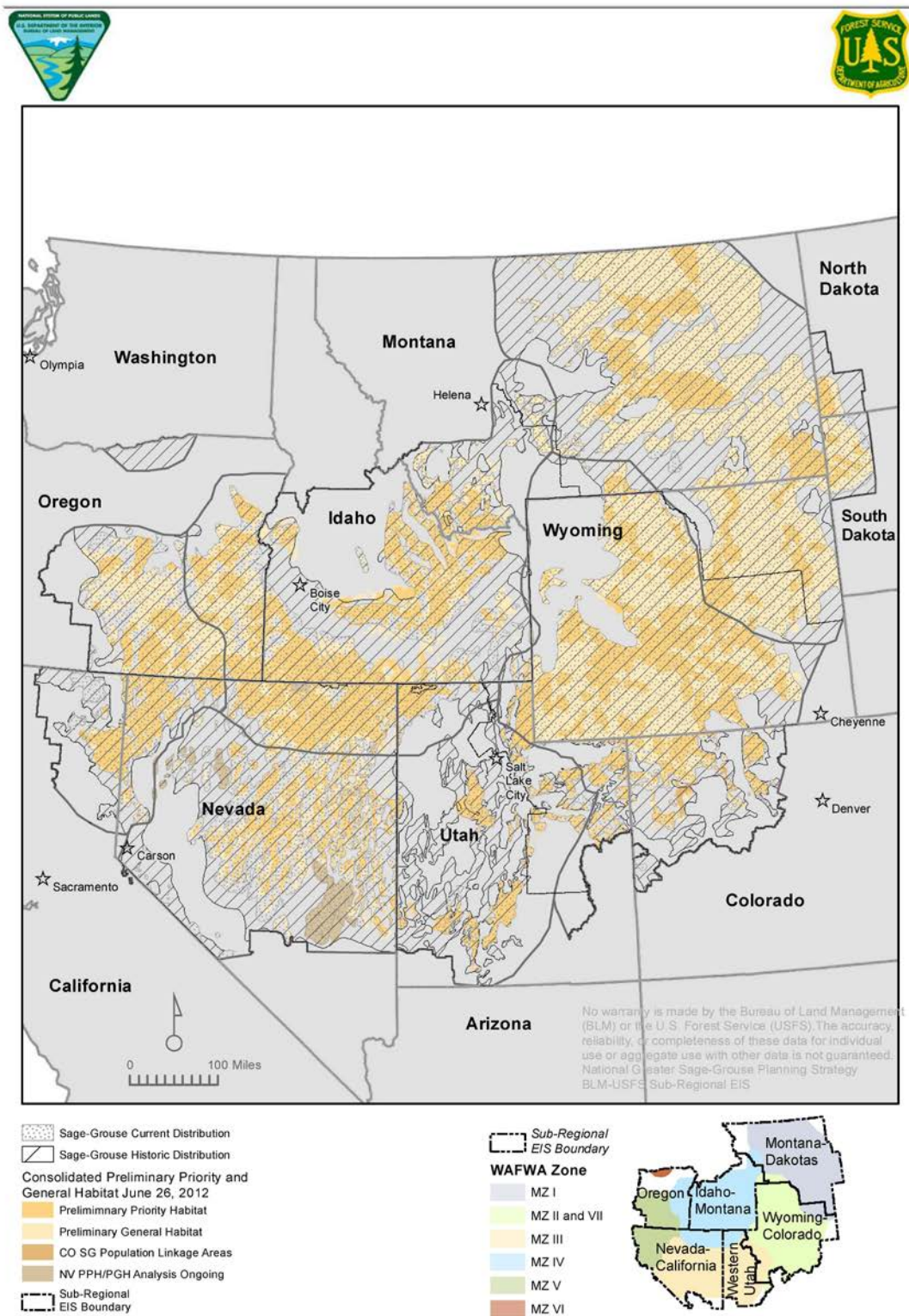
Greater Sage-Grouse (GRSG; *Centrocercus urophasianus*) are large, ground-dwelling birds that reside primarily in sagebrush ecosystems. Sagebrush ecosystems were and, in some respects, still are ubiquitous across the intermountain regions of western North America. While historical Euro-American settlement of these lands has been slower and sparser than in other regions of the country, habitat conversion to suit human purposes has contributed to widespread loss and decline of sagebrush habitat availability or quality and associated wildlife populations. These human purposes include agriculture and urban development, energy and mineral resource development, and a long history of dispersed (but sometimes intensive) uses such as domestic grazing.

More recently, large wildfires, often fueled or exacerbated by invasive plant species such as cheatgrass, have led to large areas of sagebrush loss in the intermountain west and Great Basin. The estimated distribution of contiguous sagebrush habitats, prior to Euro-American contact (Schroeder et al. 2004), was nearly twice that which is available today. This influences the availability of habitat for GRSG across the species' range (**Figure 1-1**, Greater Sage-Grouse Distribution). Although early documentation is sparse and possibly unreliable, it is suspected that GRSG were similarly more abundant historically at a continental scale (Schroeder et al. 2004). GRSG population trends are variable across their distribution, and while some populations appear stable, population numbers show long-term declines collectively across several regions (Connelly et al. 2004). Proximate reasons for population declines differ across the range-wide distribution of GRSG, but ultimately, the underlying cause is loss of suitable sagebrush habitat (Connelly and Braun 1997; Leonard et al. 2000; Aldridge et al. 2008).

The Federal Land Policy and Management Act of 1976 (FLPMA) directs the United States (US) Department of the Interior, Bureau of Land Management (BLM) to develop and periodically revise or amend its Land Use Plans (LUPs), which guide management of BLM-administered lands. The National Forest Management Act of 1976 (NFMA) directs the US Department of Agriculture (USDA) Forest Service to develop and periodically revise or amend its Land and Resource Management Plans (LRMPs), which guide management of Forest Service-administered lands. For the purpose of this document, the term LUP applies to all BLM Resource Management Plans (RMPs) and older Management Framework Plans (MFPs) and Forest Service LRMPs.

This plan amendment effort is the result of the July 2011, BLM National Greater Sage-Grouse Planning Strategy (Strategy) (BLM 2011). The Strategy responds to the March 2010, US Fish and Wildlife Service (USFWS) *12-Month Finding for Petitions to List the Greater Sage-Grouse (Centrocercus urophasianus) as Threatened or Endangered* (75 Federal Register [FR] 13910, March 23, 2010) (2010 Finding). In the 2010 Finding, the USFWS concluded that GRSG was “warranted, but precluded” for listing as a threatened or endangered species. The USFWS reviewed the status and threats to GRSG in relation to the five Listing Factors provided in Section 4(a)(1) of the Endangered Species Act (ESA). Of the five Listing Factors

Figure 1-1
Greater Sage-Grouse Distribution



Idaho and Southwestern Montana Sub-Region Greater Sage-Grouse LUPA/EIS
October 2013

reviewed, the USFWS determined that Factor A, “*the present or threatened destruction, modification, or curtailment of the habitat or range of the Greater Sage-Grouse,*” and Factor D, “*the inadequacy of existing regulatory mechanisms*” posed “*a significant threat to the Greater Sage-Grouse now and in the foreseeable future*” (USFWS 2010) (emphasis added). The USFWS identified the conservation measures in LUPs as the principal regulatory mechanisms for the BLM and Forest Service.

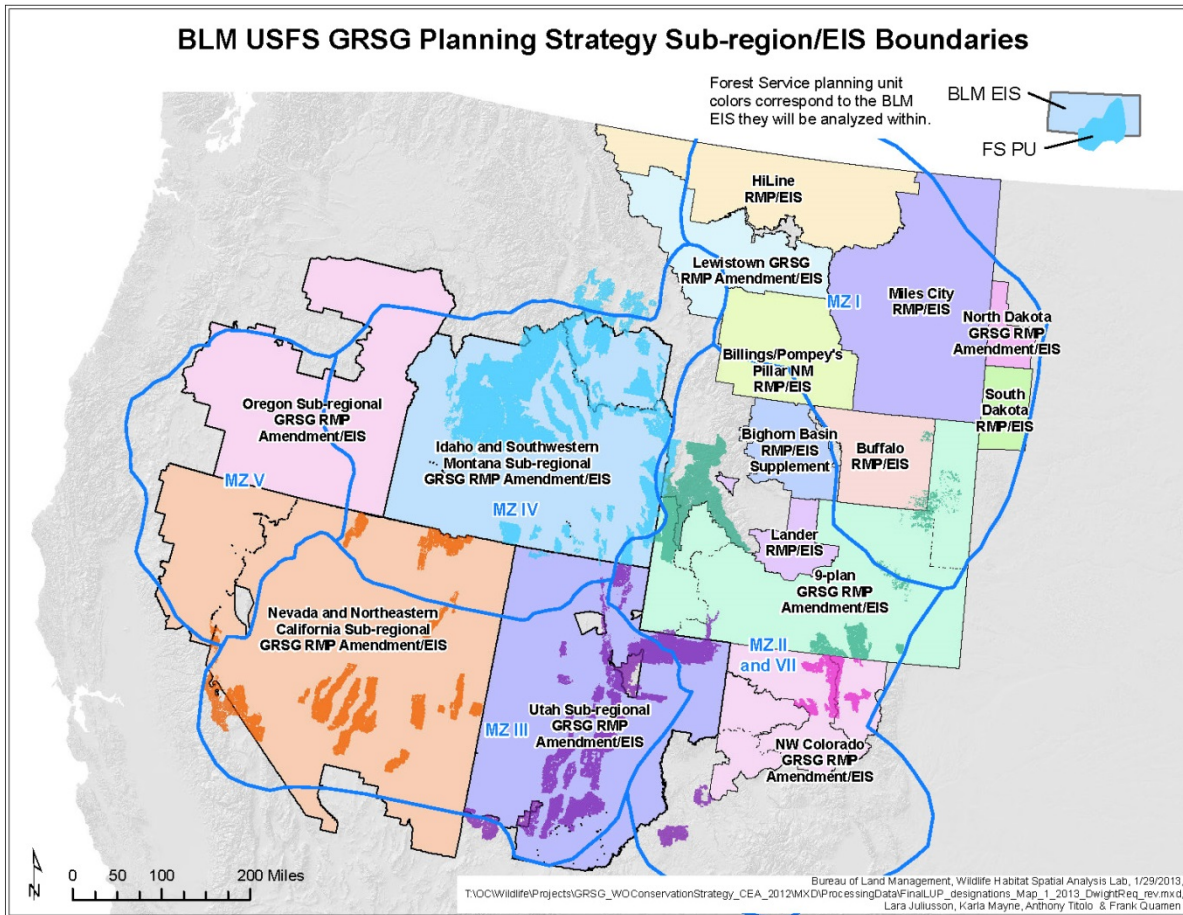
In response to the USFWS findings, the BLM and Forest Service intend to prepare plan amendments with associated Environmental Impact Statements (EISs) to incorporate specific conservation measures across the range of the GRSG, consistent with national BLM and Forest Service policy. The planning strategy will evaluate the adequacy of BLM and Forest Service LUPs and address, as necessary, amendments throughout the range of the GRSG (with the exception of the bi-state population in California and Nevada and the Washington State distinct population segment, which will be addressed through other planning efforts). The BLM is the lead agency and the FS is a cooperating agency in developing these EISs. These EISs have been coordinated under two administrative planning regions: the Rocky Mountain Region and the Great Basin Region. These regions are drawn roughly to correspond with the threats identified by the FWS in the 2010 listing decision, along with the Western Association of Fish and Wildlife Agencies (WAFWA) Management Zones framework (National Sage-grouse Conservation Planning Framework Team, December 2006).

The Rocky Mountain Region comprises LUPs in the states of Montana, North Dakota, South Dakota, Wyoming, Colorado, and portions of Utah. This region comprises the WAFWA Management Zones I (Great Plains), II (Wyoming Basin), and a portion of VII (Colorado Plateau). The USFWS has identified a number of threats in this region, the major ones being habitat loss and fragmentation caused by development (e.g., oil and gas development, energy transmission, and wind energy development).

The Great Basin Region comprises LUPs in California, Nevada, Oregon, Idaho, and portions of Utah and Montana. This region comprises the WAFWA Management Zones III (Southern Great Basin), IV (Snake River Plain), and V (Northern Great Basin). The USFWS has identified a number of threats in this region, the major ones being wildfire, loss of native habitat to invasive species, and habitat fragmentation.

Both the Rocky Mountain and Great Basin regions are further divided into sub-regions, which is the level of this National Environmental Policy Act of 1969, as amended (NEPA) analysis. These sub-regions are generally based on the identified threats to the GRSG and the WAFWA Management Zones (see **Figure 1-2**, BLM USFS GRSG Planning Strategy Sub-region/EIS Boundaries, showing the subregional boundaries and WAFWA Management Zones).

Figure 1-2
BLM USFS GRSG Planning Strategy Sub-region/EIS Boundaries



On December 9, 2011, a Notice of Intent was published in the Federal Register to initiate the amendment of LUPs across nine western states, including California, Oregon, Nevada, Idaho, Utah, and Southwest Montana in the Great Basin Region and Northwest Colorado, Wyoming, Montana, South Dakota, and North Dakota in the Rocky Mountain Region. This Idaho and Southwestern Montana Sub-Regional Plan Amendment and EIS is one of fifteen separate EISs that are currently being conducted to analyze and incorporate specific conservation measures across the range of the GRSG, consistent with National BLM and Forest Service policy. A goal of all such LUPAs is to ensure consistency of goals objectives and management actions, to the extent practicable, across the region, as well as across the range of the GRSG.

On December 27, 2011, the BLM Washington Office released Instructional Memorandum (IM) No. 2012-044, *BLM National Greater Sage-Grouse Land Use Planning Strategy*. This IM provides direction to all of the planning efforts across the GRSG range to consider all applicable conservation measures when revising or amending its LUPs in GRSG habitat,

including the measures developed by the NTT that were presented in the December 2011 document – *A Report on National Greater Sage-Grouse Conservation Measures* (NTT Report), included as Attachment 1 of the IM. The IM also directs the inclusion and refinement of preliminary priority habitat (PPH) and preliminary general habitat (PGH) to be used in applying the conservation measures included in the NTT Report. The conservation measures developed by the NTT, should be considered in the land use planning process. The NTT report provides the latest science and best biological judgment, as of December 2011, to assist in making management decisions relating to the GRSG. The IM requires that the BLM consider all applicable conservation measures developed by the NTT when revising or amending its RMPs in GRSG habitat.

To augment this planning document at a biologically meaningful scale for GRSG, a Baseline Environmental Report (BER) for GRSG was produced by the US Geological Survey (USGS) for the BLM and Forest Service (Manier et al. 2013). The BER is a science support document that provides information to provide context for the individual planning units and issues within the larger WAFWA GRSG MZs. The BER examines each threat identified in the USFWS listing decision and summarizes the current scientific understanding of various impacts on GRSG populations and habitats. When available, the BER also identifies patterns, thresholds, indicators, metrics, and measured responses that quantify the impacts of each specific threat.

1.1.1 Forest Service Involvement

The Forest Service is a cooperating agency with the BLM as part of the BLM GRSG Planning Strategy. Across the range of the GRSG the Forest Service manages approximately 8 percent of the total GRSG habitat. Combined with the approximately 52 percent managed by the BLM, both agencies manage approximately 60 percent of GRSG habitat across its range (Knick 2011).

The Forest Service has partnered with the BLM to help complete the LUPAs and EISs to implement the Strategy. As part of the initial Notice of Intent published in the Federal Register on December 9, 2011, numerous Forest Service LUPs were identified to be amended through this combined effort. After further evaluation a Notice of Correction was published in the Federal Register on February, 10, 2012, which added several additional Forest Service LUPs to the list of plans to be amended through this process.

The Forest Service “Interim Conservation Recommendations for Greater Sage-Grouse and Greater Sage-Grouse Habitat” (Forest Service Washington Office [WO] 2600 Memo, October 2, 2012) provides interim recommendations for GRSG and habitat management in Forest Service Regions 1, 2, and 4, on the 20 Forest Service units involved in the GRSG land use planning process. These recommendations are applicable until interim directives are adopted or until the amendment for the LUP unit is completed (77 *Federal Register* 12792; March 2, 2012). The recommendations identify considerations for project decision-making as well as existing direction and legal requirements that may be relevant to Forest Service management of GRSG habitat. The recommendations do not supersede more protective conservation measures in existing LUPs. The goal is to promote consistency in management of activities on Forest Service-administered lands with guidance in the BLM IM No. 2012-

043, Greater Sage-Grouse Interim Management Policies and Procedures (December 22, 2011).

The Forest Service has structured its planning effort in a manner similar to the BLM Strategy, with involvement at the national, regional and sub-regional levels, as described in detail in **Section 1.1.1**. Since December 2011, the BLM and Forest Service have been working jointly through scoping, issue and alternative development, effects analysis and document completion. At the culmination of this process, the Forest Service intends to issue a separate Record of Decision (ROD) to amend or revise (if needed) Forest Service LUPs.

1.1.2 USFWS Involvement

The USFWS is a cooperating agency with the BLM as part of this Strategy. The USFWS is ultimately responsible for the evaluation and findings regarding potential ESA listing of the GRSG. The 2010 Finding indicated that GRSG is warranted for listing but precluded by higher priority listing actions (“warranted but precluded”), this designation places the GRSG on the federal list of candidate species.

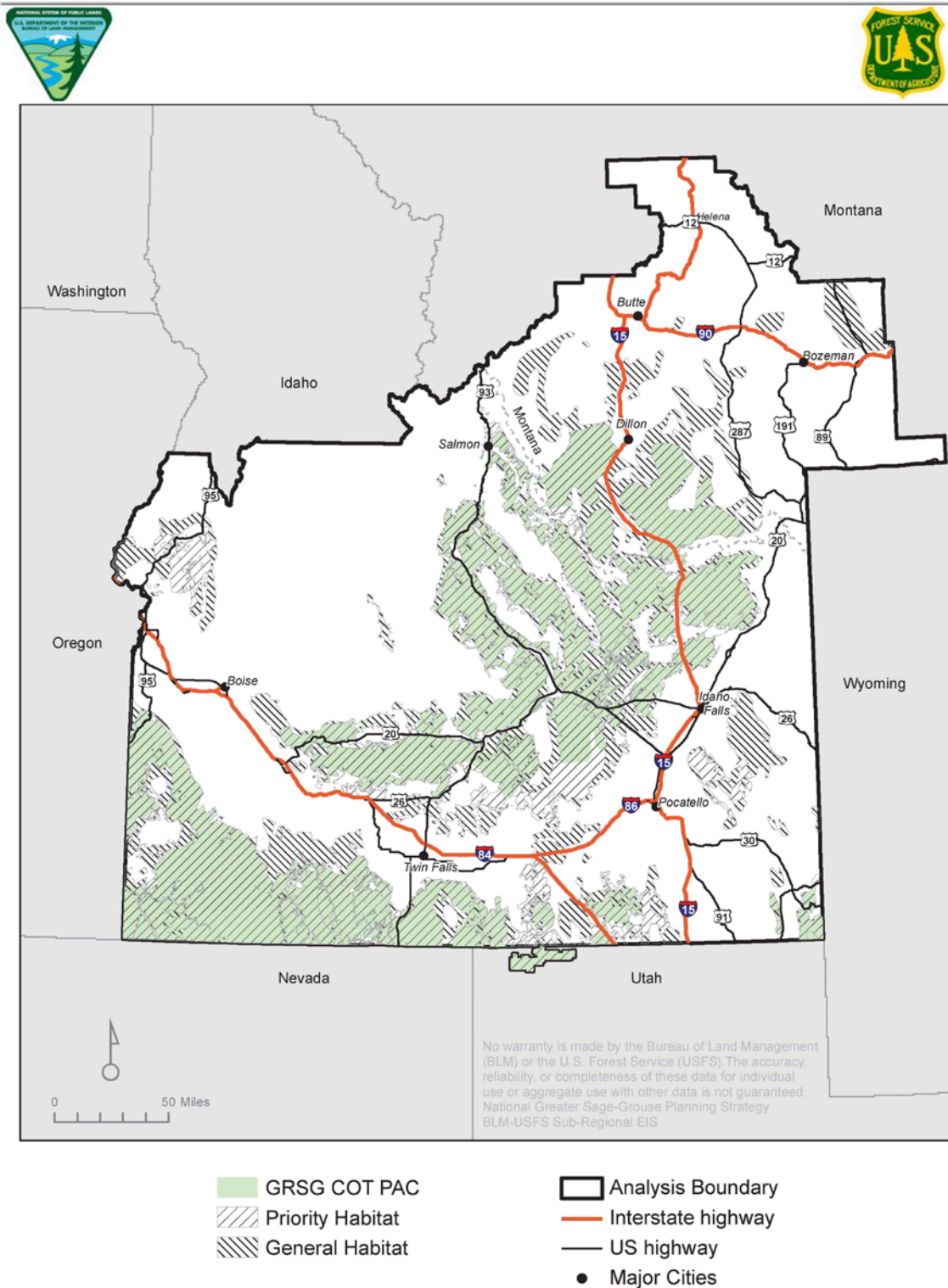
The USFWS, in a separate but related effort, created a Conservation Objectives Team (COT) to identify conservation objectives to ensure the long-term viability of the GRSG. Recognizing the management expertise and authority of state wildlife agencies, this team is composed of state and USFWS representatives. The COT identified range-wide conservation objectives for the GRSG and defined “...the degree to which threats need to be reduced or ameliorated to conserve sage-grouse so that it is no longer in danger of extinction or likely to become in danger of extinction in the foreseeable future” (USFWS 2013). The COT is built on the guiding concepts of redundancy – multiple, geographically dispersed population and habitats across a species’ range; representation – retention of genetic, morphological, physiological, behavioral, habitat or ecological diversity; and resilience – the ability of the species and its habitat to recover from disturbances. The COT identifies priority areas for conservation (PAC) – the most important areas needed for maintaining GRSG representation, redundancy, and resilience across the landscape. The COT also identifies conservation objectives that are targeted at maintaining redundant, representative and resilient GRSG habitats and populations. The conservation objectives were based upon the best scientific and commercial data available at the time of the COT’s release. The PACs and the conservation objectives will be incorporated into the BLM GRSG Planning Strategy as appropriate for assessment and evaluation in the EIS. **Figure 1-3** displays the PACs with respect to PPH and PGH and shows that the PACs are contained within PPH and PGH.

1.1.3 State Government and Wildlife Agencies Involvement

The various state wildlife agencies are involved in the BLM GRSG planning strategy as cooperating agencies and are involved with the RMTs and the Sub-Regional interdisciplinary teams. While working to help develop the EIS, the states of Idaho and Utah have also worked through their own authorities and processes to develop state plans to be included as alternatives in the BLM GRSG Planning Strategy as a potential approach to management for consideration by the BLM and Forest Service.



Figure 1-3
USFWS Priority Areas for Conservation with Preliminary Priority and General Habitat



In Montana, Governor Bullock established the Greater Sage-grouse Habitat Conservation Advisory Council on February 2, 2013, by Executive Order. The purpose of the council is to gather information, furnish advice, and provide to the Governor recommendations on policies and actions for a state-wide strategy. The council will provide recommendations for GRSG conservation to the governor by October 2013, and the governor will finalize a Montana Greater Sage-Grouse Habitat Conservation Strategy by January 31, 2014. The BLM will use the strategy to inform the proposed alternative for this plan, to the extent possible.

1.1.4 Idaho and Southwestern Montana Sub-Region

The BLM Idaho and Montana state offices and Forest Service Beaverhead-Deerlodge, Boise, Caribou, Challis, Salmon, Sawtooth, and Targhee national forests and Curlew National Grassland are preparing the Idaho and Southwestern Montana Sub-Regional EIS. This is to consider amending up to 29 LUPs to incorporate conservation measures into the management of GRSG habitat for all included BLM- and Forest Service-administered lands (**Figure 1-4**). This planning area is the geographic area within which the BLM and Forest Service will make decisions during this planning effort, and the planning area boundary includes all lands regardless of jurisdiction. For this EIS, the planning area is the entire sub-region (**Figure 1-4**). Lands addressed in the LUPA will be BLM- and Forest Service-administered lands (including surface-estate and split-estate lands) in GRSG habitats. Any decisions in the LUPA will apply only to federal lands or mineral estate administered by either the BLM or the Forest Service. The LUPA will be limited to providing land use direction specific to the conservation of GRSG and their habitat. The proposed LUPA is intended to identify and incorporate appropriate regulatory mechanisms to maintain, enhance, and restore GRSG habitat. It also is intended to eliminate, reduce, or minimize threats to GRSG priority and general habitats on BLM- and Forest Service-administered lands in the Idaho and Southwestern Montana Sub-region. The proposed LUPA addresses both ESA Listing Factors A and D (see Section 1.1 above) and is intended to provide consistency in the management of GRSG habitats across Idaho and Southwestern Montana Sub-region BLM and Forest Service offices. The LUPs identified in Table 1-1, BLM and Forest Service Land Use Plans Proposed for Amendment, are proposed to be amended during this effort to incorporate appropriate conservation measures.

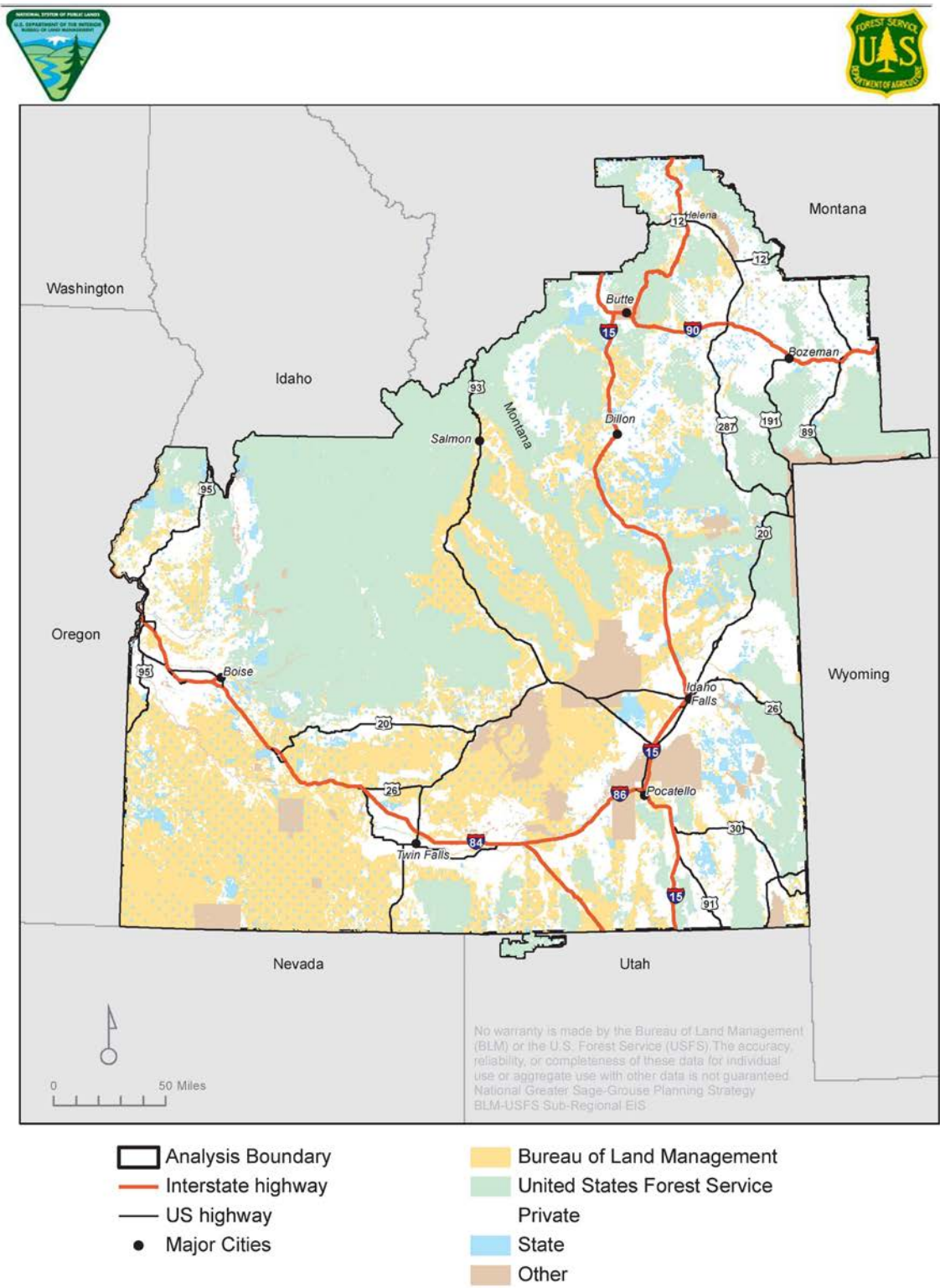
Table 1-1
BLM and Forest Service Land Use Plans Proposed for Amendment

Managing Office	Year Effective	Land Use Plan
Bureau of Land Management		
Bruneau Field Office, ID	1983	Bruneau MFP
Bruneau Field Office, ID	Revision to start in 2015	Bruneau RMP Revision
Burley Field Office, ID	1985	Cassia RMP
Burley Field Office, ID	1982	Twin Falls MFP
Challis Field Office, ID	1999	Challis RMP
Dillon Field Office, MT	2006	Dillon RMP
Four Rivers Field Office, ID	1988	Cascade RMP
Four Rivers Field Office, ID	1983	Kuna RMP

Table 1-1
BLM and Forest Service Land Use Plans Proposed for Amendment

Managing Office	Year Effective	Land Use Plan
Four Rivers Field Office, ID	In Development	Four Rivers RMP Revision
Four Rivers Field Office, ID	2008	Snake River Birds of Prey National Conservation Area (NCA) RMP
Jarbidge Field Office, ID	1987	Jarbidge RMP
Jarbidge Field Office, ID	In Development	Jarbidge RMP Revision
Owyhee Field Office, ID	1999	Owyhee RMP
Pocatello Field Office, ID	2012	Pocatello RMP
Salmon Field Office, ID	1987	Lemhi RMP
Shoshone Field Office, ID	2006	Craters of the Moon National Monument RMP
Shoshone Field Office, ID	1975	Magic MFP
Shoshone Field Office, ID	1981	Sun Valley MFP
Shoshone Field Office, ID	1980	Bennett Hills/Timmerman Hills MFP
Shoshone and Burley Field Offices, ID	1985	Monument RMP
Shoshone and Burley Field Offices, ID	Revision to start in 2015	Shoshone-Burley RMP Revision
Upper Snake Field Office, ID	1981	Little Lost-Birch Creek MFP
Upper Snake Field Office, ID	1985	Medicine Lodge RMP
Upper Snake Field Office, ID	1981	Big Desert MFP
Upper Snake Field Office, ID	1983	Big Lost MFP
Upper Snake Field Office, ID	In Development	Upper Snake RMP
Forest Service		
Beaverhead-Deerlodge National Forest, MT	2009	Beaverhead-Deerlodge National Forest Plan
Boise National Forest, ID	2010	Boise National Forest, Forest Plan Amendments Proposed to Facilitate Implementation of the Plan-Scale Wildlife Conservation Strategy
Caribou-Targhee National Forest, ID	2002	Curlew National Grassland Management Plan
Caribou-Targhee National Forest, ID	2003	Revised Forest Plan for the Caribou National Forest
Caribou-Targhee National Forest, ID	1997	1997 Revised Forest Plan, Targhee National Forest
Salmon-Challis National Forest, ID	1987	Challis National Forest Plan
Salmon-Challis National Forest, ID	1988	Salmon National Forest Plan
Sawtooth National Forest, ID, UT	2012	Sawtooth National Forest Revised Forest Plan

Figure 1-4
Idaho and Southwestern Montana Sub-Regional Planning Area



Idaho and Southwestern Montana Sub-Region Greater Sage-Grouse LUPA/EIS
October 2013

1.2 Purpose and Need

The BLM and the Forest Service are preparing a LUPA with associated EIS for LUPs containing GRSG habitat. This effort responds to the USFWS's 2010 Finding which identified inadequacy of regulatory mechanisms as a significant threat. The USFWS identified the principal regulatory mechanisms for the BLM and Forest Service as conservation measures embedded in LUPs. Changes in management of GRSG habitats are necessary to avoid the continued decline of populations that are anticipated across the species' range. These plan amendments will focus on areas affected by threats to the GRSG habitat identified by the USFWS in the 2010 Finding. Within the Idaho and Southwestern Montana Sub-region the primary threats to GRSG include habitat loss and fragmentation due to increased occurrence of wildfire, expansion of invasive species, human development and infrastructure. Table 1-2, Identified Threats to Greater Sage-Grouse, lists the threats, in order of priority, that have been identified across the GRSG range and specifically within Idaho and Montana. At the local scale, the relative risk of these threats may differ. For example, even though the USFWS at the national level, the State of Idaho at the state level, and the Challis Local Working Group (LWG) at the local level have identified predation as a lower threat, the Custer County Board of Commissioners has identified excessive predation as the greatest threat to GRSG within Custer County (see **Appendix A**).

Table 1-2
Identified Threats to Greater Sage-Grouse

USFWS 2010 Finding	2006 Idaho GRSG Conservation Plan	2005 Montana GRSG Management Plan
Invasive Species	Wildfire	Fire
Infrastructure	Infrastructure	Harvest management
Fire	Annual Grassland	Livestock grazing management
Agriculture	Livestock Impacts	Noxious weed management
Grazing	Human Disturbance	Mining and energy development
Oil and Gas	West Nile Virus	Outreach, education, and implementation;
Urbanization	Prescribed Fire	Power lines and generation facilities
Mining	Seeded Perennial Grassland	Predation
Conifer Invasion	Climate Change	Recreational disturbance of GRSG
Predation	Conifer Encroachment	Roads and motorized vehicles
Disease	Isolated Populations	Vegetation
Water Development	Predation	Other wildlife
Hunting	Urban/Exurban Development	
Climate Change	Sagebrush Control	
	Insecticides	
	Agricultural Expansion	
	Sport Hunting	
	Mines/Landfills/Gravel Pits	
	Falconry	

Source: USFWS 2010a; Idaho Sage-Grouse Advisory Committee 2006; Montana Sage-Grouse Work Group 2005

The purpose of the LUPA is to identify and incorporate appropriate conservation measures into LUPs to conserve, enhance, and restore GRSG habitat by reducing, eliminating, or minimizing threats to that habitat. The BLM will consider such measures in the context of its multiple-use mandate under the Federal Land Policy and Management Act (FLPMA). Because the BLM and Forest Service administer a large portion of the GRSG habitat within the affected states, changes in BLM and Forest Service management of GRSG habitats are anticipated to have a considerable beneficial impact on present and future GRSG populations.

1.3 Description of the Greater Sage-Grouse Planning Area

1.3.1 Overview

The Idaho and Southwestern Montana Sub-region includes BLM- and Forest Service-administered lands in Idaho and southwestern Montana, excluding the Idaho panhandle (**Figure 1-3** and **Table 1-3**, Acres of GRSG Habitat by Surface Management). The specific field offices and national forests included in the planning area are: Bruneau Field Office, Burley Field Office, Challis Field Office, Four Rivers Field Office, Jarbidge Field Office, Owyhee Field Office, Pocatello Field Office, Salmon Field Office, Shoshone Field Office, Upper Snake Field Office, Boise National Forest, Caribou-Targhee National Forest, Curlew National Grassland, Salmon-Challis National Forest, and Sawtooth National Forest in Idaho; and Butte Field Office, Dillon Field Office, and Beaverhead-Deerlodge National Forest in southwest Montana. The Idaho and Southwestern Montana Sub-region also includes the portion of the Sawtooth National Forest located within Box Elder County in Utah, and the maps of the Idaho and Southwestern Montana Greater Sage-Grouse LUPA will display these lands as part of the planning area. The acres of GRSG habitat by county is displayed in Table 1-4, Acres of GRSG Habitat by County' .

There are approximately 77,800 acres of BLM-administered lands in Elko County, Nevada, located north of the Humboldt-Toiyabe National Forest and south of the Idaho-Nevada state line adjacent to the Bruneau and Jarbidge Field Offices in Idaho. For purposes of the GRSG LUPAs in Idaho and in Nevada, planning for these lands will occur through the Nevada and Northeastern California Greater Sage-Grouse LUPA, and the regulatory measures and decisions that are put in place for the GRSG through the ROD will be implemented and administered by the Jarbidge and Bruneau Field Offices in Idaho. Therefore, the decision and planning areas for the Idaho and Southwestern Montana Greater Sage-Grouse LUPA end at the Idaho/Nevada state line and will not include lands in Nevada; however, maps will continue to include these Nevada lands as part of the Idaho and Southwestern Montana Sub-region based on the recognized administrative boundary.

PPH and PGH have been delineated as defined by BLM IM No. 2012-043 for both Idaho and Montana. Although slightly different processes were used to delineate these areas the habitat described is analogous and will be discussed in conjunction for the purposes analysis. In Idaho, PPH and PGH were identified based on a model incorporating sage-grouse breeding bird density and lek connectivity models, informed with additional ancillary broad



Table 1-3
Acres of GRS Habitat by Surface Management

Surface Land Management	Acres PPH	Acres PGH	Acres Outside Habitat	Total Acres
BLM Total	7,266,502	1,993,711	3,469,923	12,730,136
BLM – Idaho	6,811,269	1,749,965	2,982,419	11,543,653
Bruneau Field Office	1,000,975	184,738	262,883	1,448,596
Burley Field Office	422,038	206,232	206,665	834,935
Challis Field Office	635,561	84,386	72,920	792,867
Four Rivers Field Office	162,179	190,816	901,410	1,254,405
Jarbridge Field Office	765,096	251,971	305,140	1,322,207
Owyhee Field Office	794,635	242,740	222,505	1,259,880
Pocatello Field Office	233,651	87,506	278,785	599,942
Salmon Field Office	311,068	51,666	131,220	493,954
Shoshone Field Office	1,092,382	262,015	368,782	1,723,179
Upper Snake Field Office	1,393,684	187,895	232,109	1,813,688
BLM – Montana	455,233	243,746	487,504	1,186,483
Butte Field Office ¹	0	25,497	274,062	299,559
Dillon Field Office	455,233	218,249	213,442	886,924
Forest Service Total	963,016	897,476	12,027,664	13,887,758
Forest Service - Idaho	800,412	661,830	9,631,958	11,094,200
Sawtooth National Forest	281,887	212,366	1,605,803	2,100,056
Boise National Forest	21,371	53,728	2,131,461	2,206,560
Caribou-Targhee National Forest	148,636	187,053	2,223,553	2,559,242
Salmon-Challis National Forest	348,518	208,683	3,671,141	4,228,342
Forest Service - Montana	162,604	235,646	2,395,706	2,793,558
Beaverhead-Deerlodge National Forest	162,604	235,646	2,395,706	2,793,558
US Fish and Wildlife Service	35,244	3,648	21,433	60,325
National Park Service	27,334	222,701	420,379	670,414
Department of Energy	378,042	182,455	1,672	562,169
Department of Defense	11,148	37,714	81,014	129,876
Bureau of Reclamation	3,171	22,729	217,720	243,620
Bureau of Indian Affairs	60,635	29,161	273,926	363,722
Indian Tribe	143,949	10,672	188,991	343,612
Idaho State	642,411	368,186	802,820	1,813,417
Montana State	221,665	167,455	431,995	821,115
Private	2,137,373	2,235,327	12,762,174	17,134,874
Other	55,621	29,564	280,985	366,170
Total Acres:	11,946,111	6,200,799	30,980,696	49,127,208

Source: BLM 2013

¹Butte Field Office-administered lands are not included as part of the analysis in this LUP/EIS except as required in the cumulative effects analysis.

Table 1-4
Acres of GRSG Habitat by County^{2, 3}

County	Acres PPH			Acres PGH			GRSG Habitat (PPH & PGH)			County Acres	Percent Federal PPH in County	Percent Federal Habitat in County
	BLM	Forest Service	BLM & Forest Service	BLM	Forest Service	BLM & Forest Service	BLM	Forest Service	BLM & Forest Service			
Idaho												
Ada	0	0	0	494	0	494	494	0	494	678,761	0	0
Adams	7,782	0	7,782	14,403	82	14,485	22,186	82	22,267	604,241	1	4
Bear Lake	43,527	1,623	45,150	4,694	612	5,306	48,221	2,235	50,456	672,707	7	8
Bingham	87,804	0	87,804	96,541	0	96,541	184,345	0	184,345	1,356,817	6	14
Blaine	453,901	2,235	456,136	65,314	17,670	82,984	519,215	19,904	539,120	1,699,115	27	32
Bonneville	6,232	0	6,232	19,359	42,024	61,383	25,591	42,024	67,615	1,216,279	1	6
Butte	489,256	65,357	554,613	20,187	73,773	93,960	509,443	139,130	648,573	1,432,835	39	45
Camas	97,170	424	97,594	15,303	19,040	34,343	112,473	19,464	131,937	689,140	14	19
Caribou	7,437	0	7,437	9,079	2,029	11,108	16,516	2,029	18,545	1,150,848	1	2
Cassia	251,541	130,858	382,399	133,354	121,924	255,277	384,895	252,781	637,677	1,651,029	23	39
Clark	310,692	108,124	418,815	25,848	90,410	116,258	336,540	198,534	535,074	1,130,064	37	47
Custer	652,499	234,719	887,218	78,091	102,171	180,262	730,591	336,890	1,067,481	3,160,397	28	34
Elmore	108,396	26,164	134,561	57,713	53,759	111,471	166,109	79,923	246,032	1,986,141	7	12
Fremont	97,761	8,855	106,615	6,877	14,091	20,968	104,638	22,946	127,584	1,212,761	9	11
Gem	0	0	0	19,515	0	19,515	19,515	0	19,515	361,396	0	5
Gooding	194,965	0	194,965	18,087	0	18,087	213,052	0	213,052	469,856	41	45
Jefferson	169,076	0	169,076	12,241	0	12,241	181,317	0	181,317	707,743	24	26
Jerome	0	0	0	54,875	0	54,875	54,875	0	54,875	385,601	0	14
Lemhi	377,801	66,831	444,633	63,207	77,143	140,349	441,008	143,974	584,982	2,924,468	15	20
Lincoln	306,095	0	306,095	129,684	0	129,684	435,780	0	435,780	771,792	40	56
Madison	11,445	0	11,445	840	0	840	12,285	0	12,285	302,913	4	4
Minidoka	124,480	0	124,480	10,761	0	10,761	135,241	0	135,241	487,908	26	28

²Acres included are within the planning area. Acres for counties that extend beyond the planning area only reflect those acres within the county and within the planning area. Counties which do not contain any federal PPH or PGH are not included in the table.

³Acreage totals may not match other tables exactly, as a result of rounding errors and GIS overlay offsets.

Table 1-4
Acres of GRSG Habitat by County^{2, 3}

County	Acres PPH			Acres PGH			GRSG Habitat (PPH & PGH)			County Acres	Percent Federal PPH in County	Percent Federal Habitat in County
	BLM	Forest Service	BLM & Forest Service	BLM	Forest Service	BLM & Forest Service	BLM	Forest Service	BLM & Forest Service			
Oneida	172,261	43,598	215,858	65,725	17,853	83,579	237,986	61,451	299,437	768,976	28	39
Owyhee	2,344,473	0	2,344,473	651,073	0	651,073	2,995,546	0	2,995,546	4,925,820	48	61
Payette	3,378	0	3,378	9,078	0	9,078	12,456	0	12,456	262,279	1	5
Power	82,109	4,101	86,210	35,845	2,411	38,256	117,954	6,512	124,466	922,962	9	13
Twin Falls	345,051	63,893	408,944	39,743	27,491	67,233	384,793	91,384	476,177	1,234,350	33	39
Washington	66,064	0	66,064	91,999	901	92,899	158,062	901	158,963	942,277	7	17
Montana												
Beaverhead	431,635	126,198	557,833	123,347	139,458	262,805	554,982	265,656	820,638	3,566,552	16	23
Deer Lodge	0	0	0	599	109	708	599	109	708	474,401	0	0
Gallatin	0	0	0	326	0	326	326	0	326	1,685,611	0	0
Madison	23,616	39,822	63,438	97,523	100,736	198,259	121,139	140,558	261,697	2,306,198	3	11
Silver Bow	0	0	0	17,395	663	18,059	17,395	663	18,059	459,886	0	4
Utah												
Box Elder ⁴	0	71,827	71,827	0	0	0	0	71,827	71,827	71,827	100	100

⁴Only acres for the Sawtooth National Forest that are located in Box Elder County are included; therefore, the only county acres contained in the Idaho and southwestern Montana Sub-region are those administered by the Sawtooth National Forest.

scale habitat data, seasonal habitat maps, connectivity information, expert opinion, population persistence model, local priority areas and agriculture and conifer filters (Makela and Major 2012).

In Montana, PPH was delineated based on Montana Fish, Wildlife, and Park's (MFWP) modeling of GRSG Core Areas using a model based on male lek attendance and refined with seasonal habitat, telemetry, connectivity information and field review; occupied habitats not identified as Core Areas were delineated as PGH (MFWP 2009).

Through this land use planning process, the BLM and Forest Service continue to refine PPH and PGH data to: (1) identify priority habitat and analyze actions within priority habitat to conserve GRSG habitat functionality, and/or where appropriate, improve habitat functionality, and (2) identify general habitat and analyze actions within general habitat that provide for major life history function (e.g., breeding, migration, or winter survival) in order to maintain genetic diversity needed for sustainable GRSG populations.

While PPH and PGH delineations reflect a relatively broad characterization of habitat priorities at the landscape scale, there may be variations or discrepancies locally due to the nature of the modeling involved. For purposes of this planning effort, the April 2012 map (Makela and Major 2012) provides a common basis for comparing baseline conditions and impacts analysis for each alternative on GRSG habitat in the sub-region. For the remainder of this document, PPH and PGH refer to the areas identified in the April 2012 map of GRSG habitat (**Figure 1-4**).

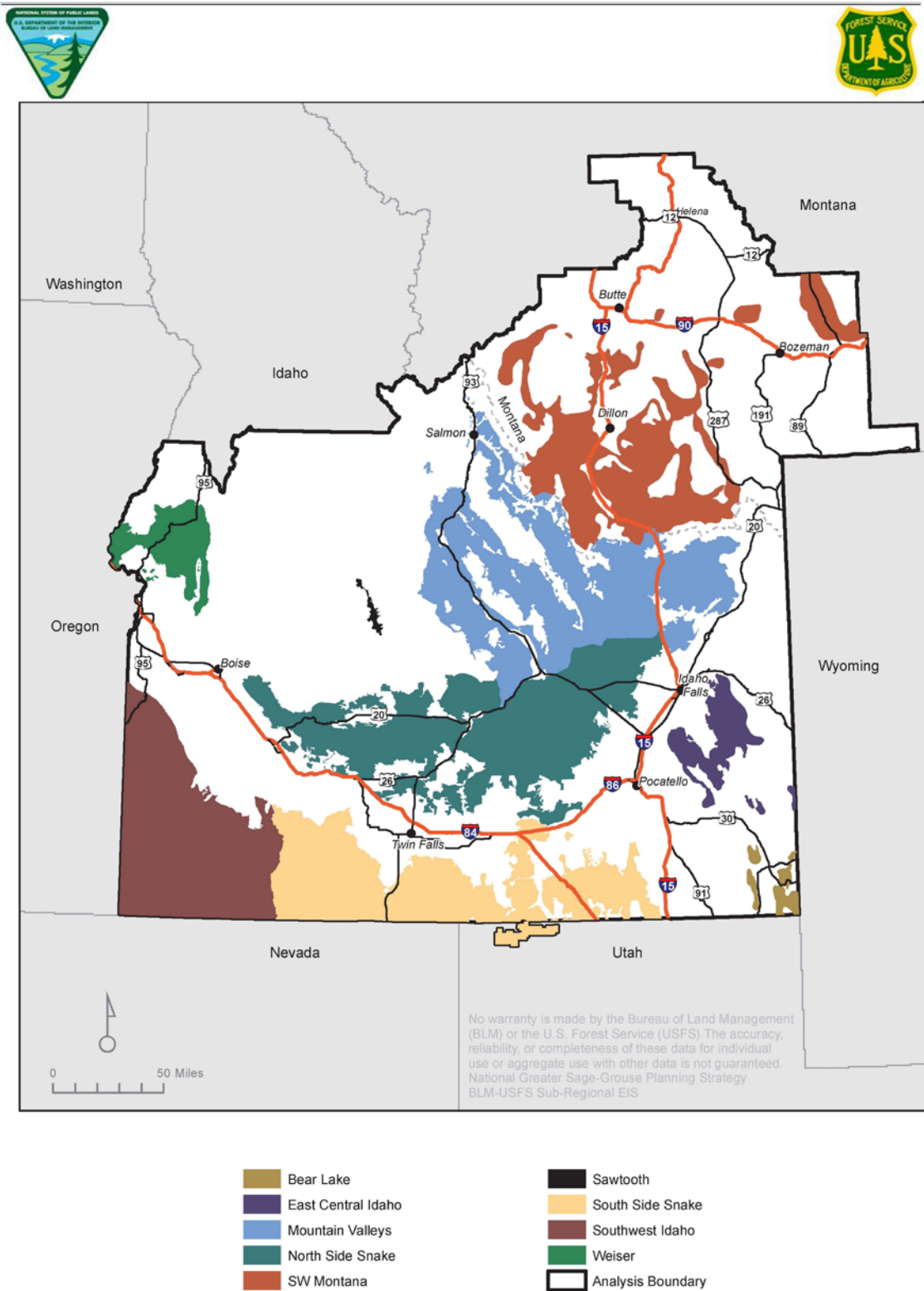
The vast majority of the Idaho and Southwestern Montana Sub-region lies within WAFWA Management Zone (MZ) IV (Stiver et al. 2006). A small portion of southeastern Idaho is within MZ II and is associated with the Wyoming Basin population. Within the sub-region, GRSG occupy all or portions of ten population areas described in Connelly et al (2004; **Figure 1-5**, Idaho and Southwestern Montana Greater Sage-Grouse Population Areas). Two populations (Great Basin Core, Wyoming Basin) occupy habitat in adjacent states. Habitat mapping has been coordinated across state boundaries.

The distribution of GRSG is closely aligned with the distribution of sagebrush-dominated landscapes (Schroeder et al. 2004). In the sub-region, large expanses of sagebrush still occur in portions of southwestern and south-central Idaho, in association with the Great Basin Core population shared with Nevada, Oregon, and Utah, as well as in portions of the Snake-Salmon-Beaverhead population north of the Snake River.

At broad scales, PPH and PGH encompass areas of intact sagebrush, suitable for GRSG habitat needs. PPH and PGH may also contain inclusions of conifer encroachment and perennial grass dominated areas, generally occupied by GRSG or potentially suitable for future restoration. At finer scales, PPH and PGH encompass areas of intact suitable sagebrush habitat that is generally occupied by GRSG, as well as areas of conifer expansion and perennial grassland potentially suitable for future restoration.



Figure 1-5
Idaho and Southwestern Montana Greater Sage-Grouse Population Areas



Idaho and Southwestern Montana Sub-Region Greater Sage-Grouse LUPA/EIS
October 2013

If current trends in wildfire, populations and habitat activities continue, then populations of sage-grouse in MZ IV are estimated to decline by 55 percent between 2007 and 2037, and by 66 percent in MZ II (USFWS 2010, citing unpublished version of Garton et al. 2011). Modeling suggests that if current conditions and trends continue, at least 13 percent of the GRSG populations may decline below effective population sizes of 50 within the next 30 years and at least 75 percent of the populations may decline below effective population sizes of 500 within the next 100 years (Garton et al. 2011).

1.3.2 Land Uses

Land uses occurring within GRSG habitat on BLM- and Forest Service-administered lands in the Idaho and Southwestern Montana Sub-region are livestock grazing and associated infrastructure; rights-of-way (ROWs) for a variety of linear and site-type facilities; travel and recreation; off-highway vehicle (OHV) use; energy (nonrenewable, renewable, and geothermal), mineral development (including hardrock and phosphate mining); and geothermal leasing, exploration, and development.

These uses generally occur throughout the planning area to varying degrees. For example phosphate leasing is typically confined to southeast Idaho and oil and gas leasing typically occurs in the eastern portion of the sub-region. Livestock grazing occurs throughout the sub-region as do recreation, OHV use and various ROW authorizations for linear and site-type facilities.

1.4 Planning Process

1.4.1 BLM Planning Process

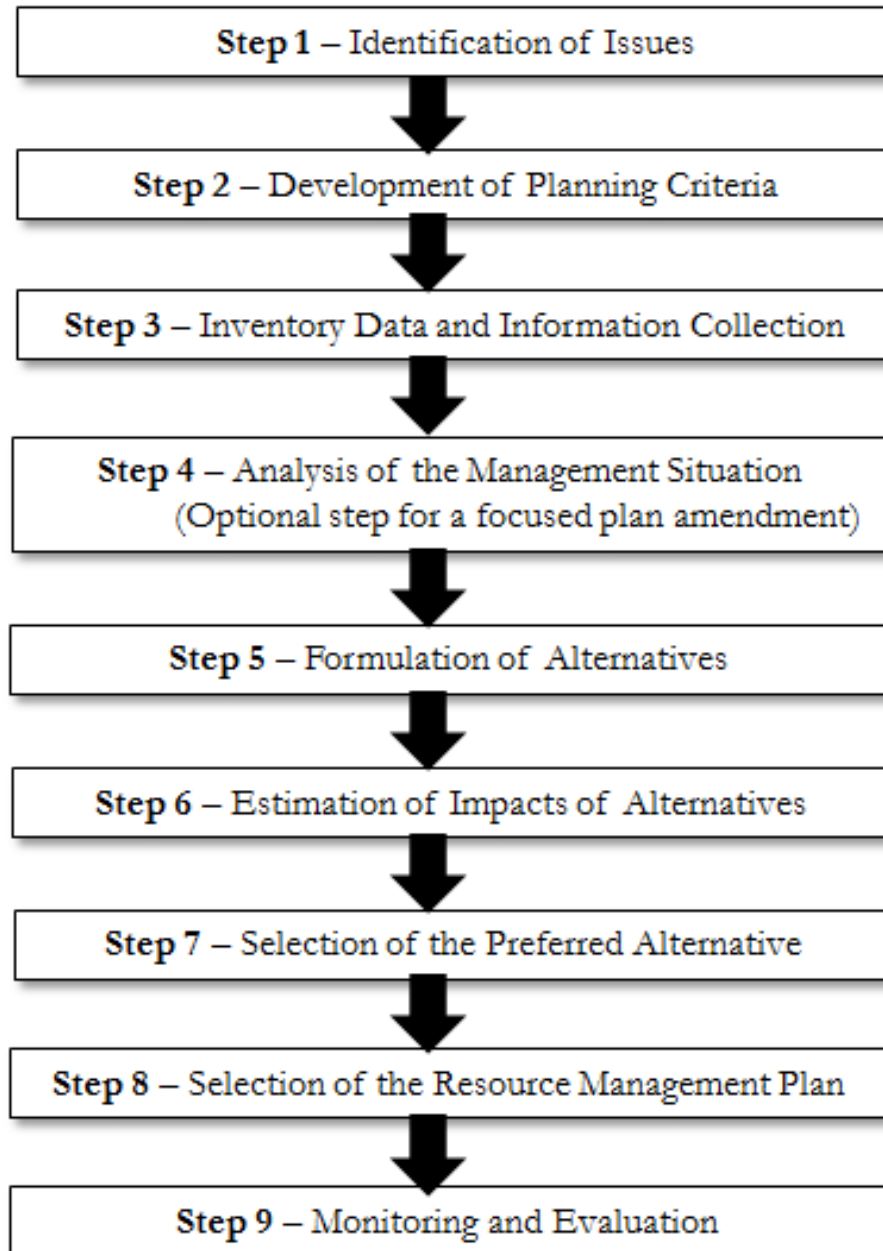
FLPMA requires the BLM to use RMPs as tools by which "present and future use is projected" (43 United States Code [USC] 1701(a)(2)). FLPMA's implementing regulations for planning (43 Code of Federal Regulations [CFR] Part 1600), state that LUPs are a preliminary step in the overall process of managing public lands "designed to guide and control future management actions and the development of subsequent, more detailed and limited scope plans for resources and uses" (43 CFR 1601.0-2). Public participation and input are important components of land use planning.

Under BLM regulations, an RMP revision or amendment of an existing plan is a major federal action requiring disclosure and documentation of environmental effects as described in the NEPA. Thus, this EIS accompanies the amendment of the existing RMPs (Table 1-1). This EIS analyzes the impacts of six alternatives for the Idaho and Southwestern Montana Sub-region LUPA, including the No Action Alternative. The science used to analyze these impacts is current through August 2013.

The BLM uses a nine-step planning process (**Figure 1-6**, BLM Nine Step Planning Process) to develop or revise RMPs (43 CFR Part 1600 and planning program guidance in the BLM Handbook H-1601-1, Land Use Planning Handbook (BLM 2005a)). The planning process is designed to help the BLM identify the uses of BLM-administered lands desired by the public



Figure 1-6
BLM Nine Step Planning Process



Source: 43 CFR 1610.4

and to consider these uses to the extent they are consistent with the laws established by Congress and the policies of the executive branch of the federal government.

Once an RMP is approved, it may be changed through amendment. An amendment can be initiated in response to monitoring and evaluation findings, new data, new or revised policy, a change in circumstances or a proposed action that may result in a change in the scope of resource uses or a change in the terms, conditions, and decisions of the approved plan. If the BLM decides to prepare an EIS, the amending process shall follow the same procedure required for preparation and approval of the plan, but the focus shall be limited to that portion of the plan being amended (43 CFR 1610.5-5).

As depicted in **Figure 1-6**, the planning process is issue-driven (Step 1). The planning process is undertaken to resolve management issues and problems as well as to take advantage of management opportunities. The BLM uses the public scoping process to identify planning issues to direct (drive) the revision or amendment of an existing plan. The scoping process is also used to introduce the public to preliminary planning criteria, which set the parameters or "sideboards" for conducting the planning process (Step 2).

The BLM uses existing data from files and other sources and collects new data to address planning issues and to fill data gaps identified during public scoping (Step 3). Using these data, information concerning the resource management programs, and the planning criteria, the BLM completes an Analysis of the Management Situation (AMS) (Step 4) to describe current management and develop or inform the affected environment portion of the LUP. Typically, the AMS is conducted at the outset of planning for an entire LUP or LUP revision and is incorporated by reference into development of a single focus plan amendment. AMSs are required for plan revisions but not necessarily for plan amendments, and an AMS has not been completed specific to this sub-regional planning effort. In this case, direction for the plan amendment is provided through national policy (BLM IM 2012-044).

Results of the first four steps of the planning process clarify the purpose and need and identify key planning issues that need to be addressed by the amendment. Key planning issues reflect the focus of the LUP amendment and are described in more detail in **Section 1.5.2, Issues Identified for Consideration in the Idaho and Southwestern Montana Sub-Region**.

Alternatives constitute a range of management actions that set forth different priorities and measures to emphasize certain uses or resource values over other uses or resource values (usually representing a continuum from extraction and development to preservation/conservation) pursuant to the multiple-use and sustained yield mandate, so as to achieve certain goals or objectives consistent with the purpose and need. During alternative formulation (Step 5), the BLM collaborates with cooperating agencies to identify goals and objectives (desired outcomes) for resources and resource uses within the planning area. The alternatives represent a reasonable range of planning strategies for managing resources and resource uses. Chapter 2 of this document, Alternatives, describes and summarizes the Preferred Alternative and the other draft alternatives considered in detail.



This draft LUPA/EIS also includes an analysis of the impacts of the Preferred Alternative and the other draft alternatives in Chapter 4, Environmental Consequences (Step 6). With input from cooperating agencies and BLM specialists, and consideration of planning issues, planning criteria, and the impacts of alternatives, the BLM identifies and recommends a preferred alternative from among the alternatives presented in the EIS (Step 7). This is documented in the draft LUPA/EIS, which is then distributed for a 90-day public review and comment period.

Following receipt and consideration of public comments on the draft LUPA/EIS and in preparation of the Proposed LUPA/Final EIS, the BLM considers all comments it receives during the public comment period (Step 8). The Proposed LUPA will be crafted, in whole or in part, from components of the draft alternatives. This Proposed LUPA amends plans on final approval of the Record of Decision.

Monitoring, the repeated measurement of activities and conditions over time, and evaluation, in which the plan and monitoring data are reviewed to see if management goals and objectives are being met and if management direction is sound, are components of plan implementation (Step 9). Monitoring data gathered over time are examined and used to draw conclusions on whether management actions are meeting stated objectives, and if not, why. Conclusions are then used to make recommendations on whether to continue current management or what changes need to be made in management practices to meet objectives.

The two types of monitoring of the planning process include implementation and effectiveness monitoring. Land use plan monitoring is the process of (1) tracking the implementation of land use planning decisions and (2) collecting and assessing data/information necessary to evaluate the effectiveness of land use planning decisions. The two types of monitoring are described below.

Implementation Monitoring: Implementation monitoring is the most basic type of monitoring and simply determines whether planned activities have been implemented in the manner prescribed by the plan. Some agencies call this compliance monitoring. This monitoring documents the BLM's progress toward full implementation of the LUP decision. There are no specific thresholds or indicators required for this type of monitoring.

Effectiveness Monitoring: Effectiveness monitoring is aimed at determining if the implementation of activities has achieved the desired goals and objectives. Effectiveness monitoring asks the question: Was the specified activity successful in achieving the objective? This requires knowledge of the objectives established in the LUP as well as indicators that can be measured. Indicators are established by technical specialists in order to address specific questions, and thus to focus on collection of only necessary data. Success is measured against the benchmark of achieving desired future conditions established by the plan.

Regulations at 43 CFR 1610.4-9 require that the proposed LUPA establish intervals and standards, as appropriate, for monitoring and evaluation of the plan, based on the sensitivity of the resource decisions involved. Progress in meeting the plan objectives and adherence to

the management framework established by the plan is reviewed periodically. The Council on Environmental Quality (CEQ) regulations implementing NEPA state that agencies may provide for monitoring to assure that their decisions are carried out and should do so in important cases (40 CFR 1505.2(c)). To meet these requirements, the BLM will review the plan on a regular schedule in order to provide consistent tracking of accomplishments and provide information that can be used to develop annual budget requests to continue implementation.

LUP evaluations will be used by BLM to determine if the decisions in the LUP, supported by the accompanying NEPA analysis, are still valid. Evaluation of the LUP will generally be conducted every five years per BLM policy, unless unexpected actions, new information, or significant changes in other plans, legislation, or litigation triggers an evaluation. LUP evaluations determine if decisions are being implemented, whether mitigation measures are satisfactory, whether there are significant changes in the related plans of other entities, whether there are new data of significance to the plan, and if decisions should be changed through amendment or revision. Evaluations will follow the protocols established by the BLM Land Use Planning Handbook H-1601-1 in effect at the time the evaluation is initiated. Specific monitoring and evaluation needs are identified by resource/uses throughout Chapter 2.

1.4.2 Forest Service Planning Process

The Forest and Rangeland Renewable Resources Planning Act of 1974, as amended by the NFMA (16 USC 1600 et seq.), requires the Forest Service to develop, maintain, and, as appropriate, revise LRMPs for units of the National Forest System using a systematic interdisciplinary approach to achieve integrated consideration of physical, biological, economic, and other sciences. Consistent with the Multiple-Use Sustained-Yield Act of 1960 (16 USC 528-531), the overall goal of managing the National Forest System is to sustain the multiple uses of its renewable resources in perpetuity while maintaining the long-term productivity of the land. LRMPs provide broad guidance and information for project and activity decision-making. In particular, LRMPs coordinate outdoor recreation, range, timber, watershed, wildlife and fish, and wilderness. Public participation and input are important components of land use planning.

LRMPs developed under the 1982 planning rule procedures (36 CFR parts 200 to 299, revised July 1, 2000) have resulted in:

- i. Establishment of forest multiple-use goals and objectives
- ii. Establishment of forest-wide management requirements (standards and guidelines)
- iii. Establishment of management areas and management area direction (management area prescriptions) applying to future activities in that management area
- iv. Designation of suitable timber land and establishment of allowable timber sale quantity



- v. Nonwilderness allocations or wilderness recommendations
- vi. Establishment of monitoring and evaluation requirements

NFMA requires LRMPs to be maintained, amended, and revised. Adaptive management requires ongoing adjustment of goals, objectives, management area prescriptions, standards, and guidelines constraining land uses. An amendment can be started in response to monitoring and evaluation findings, new data, new or revised policy, a change in circumstances or a proposed action that may result in a change in the scope of resource uses, or a change in the standards and guidelines of the approved plan. Plan development is part of the collaborative and adaptive cycle: (1) monitor, (2) evaluate monitoring results and any new information, and (3) change activity and resource management, change the plan, change the monitoring, or do an assessment.

The Forest Service responsible official may amend a plan in response to the need for change. For this amendment, the process involves eight steps (36 CFR, Part 220):

- i. Consideration of need for change
- ii. Public notice for initiating plan amendment. Development of the proposed plan amendment
- iii. Documentation of affected environment and environmental consequences in an EIS. Public notice for proposed plan amendment, draft EIS, and 90-day comment period
- iv. Response to comments
- v. Issuance of final EIS and draft decision document, beginning of the 60-day public objection period before approval of the decision document
- vi. Upon resolution of any objection⁵ (36 CFR, Part 219 subpart B), approval of the plan by the responsible official

Under Forest Service regulations, an LRMP revision or amendment of an existing plan is a federal action requiring appropriate NEPA documentation. This EIS analyzes the possible amendment of the Beaverhead-Deerlodge National Forest LRMP and the amendment of the individual LRMPs for the Boise, Caribou, Challis, Salmon, Sawtooth, and Targhee national forests and Curlew National Grassland. This EIS analyzes the impacts of various alternatives for the plan amendment, including the no action alternative.

In addition, both agencies have certain existing program-specific plans or amendments that implement their respective LUPs (for example oil and gas and geothermal leasing analyses).

⁵Because the Forest Service is a cooperating agency and thus a participant in the multifederal agency effort, the responsible officials for the Forest Service have waived the objection procedures of 35 CFR, Part 219, Subpart B, and adopted the administrative review procedure of the BLM, as provided for by 36 CFR, Part 219.59(a). This is in agreement with the responsible officials of the BLM. A joint agency response will be provided to those who file for administrative review of this effort.

Similar to the broad scale LUPs, these program-specific plans may also be amended to reflect new information or changed circumstances that result from this analysis.⁶

1.5 Scoping and Identification of Issues

1.5.1 The Scoping Process

Scoping is an early and open process for determining the scope, or range, of issues to be addressed and for identifying the significant issues to consider in the planning process. Scoping identifies the interested and affected public and agency concerns, defines the relevant issues and alternatives that will be examined in detail in the EIS, and eliminates those that are not within the scope or have been covered by prior environmental review. A planning issue is defined as a major controversy or dispute regarding existing and potential land and resource allocations, levels of resource use, production and related management practices on BLM- and Forest Service-administered lands that can be addressed through a range of alternatives. The environmental impacts of these alternative management scenarios are analyzed and addressed in this draft EIS.

A public scoping period was initiated on December 9, 2011, with the publication of a Notice of Intent to begin a planning effort in the Federal Register. Scoping is designed to be consistent with the public involvement requirements of FLPMA, NFMA, and NEPA. The cooperative process included soliciting input from interested state and local governments, tribal governments, other federal agencies and organizations, and individuals to identify the scope of issues to be addressed in the plan amendment, and to assist in the formulation of reasonable alternatives. The scoping process is an excellent method for opening dialogue between the BLM, Forest Service, and the general public about management of GRSG and their habitats on BLM- and Forest Service-administered lands and for identifying the concerns of those who have an interest in this subject and in the sage-grouse habitats. As part of the scoping process, the BLM also requested that the public submit nominations for potential Areas of Critical Environmental Concern (ACECs) for GRSG and their habitats.

Public outreach during the public scoping period included: press releases announcing the original and extended scoping period for the EIS process; a newsletter mailed in December 2011 to over 14,000 agency officials, organizations, and members of the public in the Great Basin Region; 26 open houses throughout the Great Basin Region; and a National GRSG conservation Web site (<http://www.blm.gov/wo/st/en/prog/more/sagegrouse.html>) and a regional Web site for the Great Basin Region (<http://www.blm.gov/wo/st/en/prog/more/sagegrouse/western.html>), which provides access to materials distributed at scoping meetings, as well as information on the public involvement process. The formal public comment period as required by NEPA began on December 9, 2011, with the publication of

⁶Regulations at 36 CFR, Part 228.102, require the Forest Service to decide which NFS lands are administratively available for oil and gas leasing. The Forest Service decision also includes necessary lease stipulations to protect surface resources. The Forest Service does not have regulations that address geothermal leasing, but the agency follows a process similar to oil and gas in that it conducts an analysis of leasing Forest Service-administered lands and makes a decision that is consistent with but independent of the LRMP.



a Notice of Intent in the Federal Register. It was extended through a Notice of Correction published February 10, 2012, and ended on March 23, 2012.

Scoping included scheduled open-house meetings in the following 26 locations (see Chapter 5 for details):

- Tonopah, Ely, Elko, Winnemucca, and Reno, Nevada
- Boise, Idaho Falls, Salmon, Twin Falls, and Pocatello, Idaho
- Lakeview, Ontario, Baker City, Burns, and Prineville, Oregon
- Price, Vernal, Salt Lake City, Randolph, Snowville, Richfield, Kanab, and Cedar City, Utah
- Alturas and Susanville, California
- Dillon, Montana

In addition, news releases were used to notify the public regarding the scoping period and the planning process and to invite the public to provide written comments from many sources including via email, fax, and regular mail (see Chapter 5 for details). Comments obtained from the public during the scoping period were used to define the relevant issues that would be addressed by a reasonable range of alternatives.

A total of 585 unique written submissions for the Great Basin Region were received during the public scoping period. Submissions resulted in a total of 7,472 unique comments. In addition, a total of 30,397 form letters were received.

For the Idaho and Southwestern Montana Sub-region planning process, scoping comments received from the public were placed in one of three categories:

- i. Issues identified for consideration in the Idaho and Southwestern Montana Sub-Region LUPA
- ii. Issues to be addressed through policy or administrative action (and therefore not addressed in the LUPA)
- iii. Issues eliminated from detailed analysis because they are beyond the scope of the LUPA (and therefore not addressed in the LUPA)

Some important issues to be addressed in the LUPA were identified by the public and the agencies during the scoping process for the statewide planning effort. The Final Scoping Summary can be located at:

http://www.blm.gov/wo/st/en/prog/more/sagegrouse/documents_and_resources.html

The Scoping Summary was prepared in support of the planning effort and summarizes the scoping process. The Scoping Report identified issues in 13 broad categories. Section 1.5.3 describes the refined issues for the Idaho and Southwestern Montana Sub-Region. Other

resource and use issues are identified in the BLM Planning Handbook and Manual (H1610-1). All of these issues were considered in developing the alternatives brought forward for analysis.

1.5.2 Issues Identified for Consideration in the Idaho and Southwestern Montana Sub-Region

During the scoping process, the BLM and Forest Service received feedback from members of the public, including various public, governmental and nongovernmental groups. This feedback, along with internal assessment and concerns described in the 2010 Finding, has been compiled to describe issues and analysis concerns that are discussed in this document. During comment analysis, individual comments were evaluated to determine whether they constituted issues relevant to this planning process. These issues were then evaluated to determine where in the planning process they most appropriately applied – project design; alternative development, or environmental effects.

Issues that applied to all parts of the planning process were further evaluated to determine planning issues. A planning issue is defined as a major controversy or dispute regarding existing and potential land and resource allocations, levels of resource use, production and related management practices on BLM- and Forest Service-administered lands that can be addressed through a range of alternatives. Planning issues can drive the development of an alternative, may involve resources that are adversely affected by the proposed action, or involve unresolved conflicts regarding alternative uses of available resources. Planning issues provide focus for the analysis and are used to compare and contrast the environmental effects of the alternatives.

In addition to planning issues, analysis issues are identified and utilized in the effects analysis to compare alternatives. These issues are further described below.

1.5.3 Planning Issues

Issues identified as planning issues for this Draft LUPA/EIS are described below. These issues have been grouped according to their related threat to GRSG, as described in the 2010 Finding, and a brief description of the threat is provided. These issues were used to drive differences between the alternatives analyzed in detail and will be discussed in the analysis and throughout the remaining chapters of this document.

Wildfire

Wildfire (primarily lightning- and human-caused) in sagebrush ecosystems is one of the primary factors linked to the loss of sagebrush-steppe habitat and corresponding population declines of GRSG. Loss of sagebrush habitat to wildfire has been increasing in the western portion of the GRSG range due to an increase in fire frequency, which has been facilitated in drier, lower elevations by the replacement of native perennial bunchgrass communities by invasive annuals such as cheatgrass. The USFWS conservation objective for wildfire – retain and restore healthy native sagebrush plant communities within the range of GRSG (USFWS 2013) – is applicable to this planning issue.



Issues:

- **What measures should be undertaken to manage fuels and wildland fires, while protecting GRSG habitat?**
- **How would the BLM and Forest Service evaluate, authorize, and implement program activities to reduce the threat (habitat loss and fragmentation) to GRSG habitat from wildland and prescribed fire?**

Vegetation – Invasive Species, Conifer Encroachment

The increase in mean fire frequency has been facilitated by the incursion of nonnative annual grasses into sagebrush ecosystems (Billings 1994; Miller and Eddleman 2001). Exotic annual grasses and other invasive plants also alter habitat suitability for GRSG by reducing or eliminating native forbs and grasses essential for food and cover (75 *Federal Register* 13910, and references therein). Annual grasses and noxious perennials continue to expand their range, facilitated by ground disturbances, including wildfire (Miller and Eddleman 2001), improper grazing (Young et al. 1972, 1976), agriculture (Benvenuti 2007), motorized recreation, and infrastructure associated with energy development (Bergquist et al. 2007). The USFWS conservation objective for nonnative, invasive plant species – maintain and restore healthy, native sagebrush plant communities (USFWS 2013) – is tied to this threat.

The intentional removal or treatment of sagebrush (i.e., using prescribed fire, or any mechanical and chemical tools to remove or alter the successional status of the sagebrush ecosystem) can contribute to habitat loss and fragmentation. Removal and manipulation of sagebrush may also increase the opportunities for the incursion of invasive annual grasses, particularly if the soil crust is disturbed (Beck et al. 2012). The USFWS conservation objective for sagebrush removal – avoid sagebrush removal or manipulation in GRSG breeding or wintering habitats (USFWS 2013) – is tied to this threat.

GRSG are negatively impacted by the expansion of pinyon and/or juniper in their habitats, even if the under-story sagebrush habitats remain (Freese et al. 2009). GRSG avoid these areas of expansion (Casazza et al. 2010), and as the pinyon and/or juniper increases in abundance and size, the underlying habitat quality for GRSG diminishes. The USFWS conservation objective for pinyon-juniper expansion – remove pinyon-juniper from areas of sagebrush that are most likely to support GRSG (post-removal) at a rate that is at least equal to the rate of pinyon-juniper incursion (USFWS 2013) – is applicable to this planning issue.

Issues:

- **How will the BLM and Forest Service address the potential expansion of nonnative annual grasses (i.e., cheatgrass) and associated loss of sagebrush habitats as a result of climate change?**
- **How would the BLM and Forest Service conserve, enhance, or restore GRSG habitat such as sagebrush communities and minimize or prevent the introduction or spread of noxious weeds and invasive species?**

- **How would the BLM and Forest Service evaluate, authorize, and implement program activities to reduce the threat (habitat loss and fragmentation) to GRSG habitat from conifer encroachment and spread of noxious and invasive species?**

Infrastructure

The increasing demands on BLM- and Forest Service-administered lands for the location of wind towers, cellular towers, utility lines, roads, and other infrastructure cause continued development within the GRSG range, resulting in habitat loss and fragmentation, which in turn result in GRSG population declines. Infrastructure development can cause fragmentation that leaves the remaining habitat in noncontiguous patches, alteration that renders patches unusable to a species, or other changes (such as installation of power lines or cellular towers) that cause habitat avoidance (USFWS 2010). The cumulative impacts of infrastructure is a concern because sage-grouse population persistence may not be influenced by a single anthropogenic (human-built or human-caused) line or point feature (such as a power line or tower), but by multiple anthropogenic features acting in synergy (Leu and Hanser 2011). Development of infrastructure for any purpose (e.g. roads, pipelines, power lines, and cellular towers) results in habitat loss and fragmentation, and may cause GRSG habitat avoidance. Infrastructure can also provide sources for the introduction of invasive plant species and may also facilitate predation by providing perching or nesting opportunities for ravens and raptors. Surface mining and associated facilities within GRSG habitats result in the direct loss of habitat and habitat fragmentation. The USFWS conservation objectives listed below for the following threats are applicable to this planning issue:

- Energy development – design energy development to ensure it will not impinge upon stable or increasing GRSG population trends
- Infrastructure – avoid development of infrastructure within PACs
- Mining – maintain stable to increasing GRSG populations and no net loss of GRSG habitats in areas affected by mining (USFWS 2013)

Issues:

- **How would the BLM and Forest Service manage program activities (land use authorizations, mining, mineral leasing, energy development – including renewable energy) to reduce the threat (habitat loss, fragmentation and reduced productivity) to GRSG habitat from additional infrastructure development and management of ongoing infrastructure development (ROWs, oil and gas development, Coal/Strip Mining, Hard Rock Mining, Wind Energy Development, Solar Energy Development) while recognizing valid existing authorizations?**
- **How would the BLM and Forest Service manage existing and proposed infrastructure development to reduce resulting mortality (direct and via predation) of GRSG?**



Human Disturbance

Various activities occurring within GRSG habitat can disturb GRSG, altering their behavior and potentially disrupting aspects of their life history requirements, leading to lowered productivity and reduced populations. These activities can include ROW, energy (nonrenewable and renewable) and mineral development, as well as commercial operation activities and recreational activities. Aspects of these activities can cause direct and indirect disturbance to GRSG (construction activities, operational activities, maintenance activities, noise, vehicles, etc.). The USFWS conservation objectives listed below for the following threats are applicable to this planning issue:

- Energy development – design energy development to ensure it will not impinge upon stable or increasing GRSG population trends
- Infrastructure – avoid development of infrastructure within PACs
- Mining – maintain stable to increasing GRSG populations and no net loss of GRSG habitats in areas affected by mining
- Recreation – manage direct and indirect human disturbance (including noise) to avoid interruption of normal GRSG behavior (USFWS 2013)

Issues:

- **How would the BLM and Forest Service evaluate, authorize, and implement program activities to reduce the threat (loss of productivity) to GRSG habitat from human presence?**
- **How would the BLM and Forest Service evaluate, authorize, and implement program activities to reduce the threat (habitat loss and fragmentation) to GRSG habitat from recreation and travel management activities?**
- **How would motorized, nonmotorized, and mechanized travel be managed to provide access to federal lands and a variety of recreation opportunities while protecting GRSG and their habitat?**

Livestock Grazing

Livestock grazing is the most widespread land use across the sagebrush biome (Connelly et al. 2004) and almost all sagebrush areas are managed for livestock grazing (Knick et al. 2003). Improper livestock management, in relation to local ecological conditions, may have negative impacts on GRSG seasonal habitats (USFWS 2010a, and references therein). Structures which support range management activities can have negative impacts on GRSG by increasing fragmentation (e.g., fences and roads) or diminishing habitat quality (e.g., concentrating ungulates in winter habitats). Fences can be deleterious to GRSG populations and habitats, with threats including habitat fragmentation and direct mortality through strikes (Stevens et al. 2012). Fences can also improve habitat conditions for GRSG (e.g., by protecting brood-rearing habitats in riparian areas from overgrazing). The USFWS

conservation objectives listed below for the following threats are applicable to this planning issue:

- Grazing – conduct grazing management for all ungulates in a manner consistent with local ecological conditions that maintains or restores healthy sagebrush shrub and native perennial grass and forb communities and conserves the essential habitat components for GRSG (e.g., shrub cover, nesting cover)
- Range management structures – avoid or reduce the impact of range management structures on GRSG habitat
- Fences – minimize the impact of fences on GRSG populations (USFWS 2013)

Issues:

- **How would the BLM and Forest Service evaluate, authorize, and implement grazing management activities (grazing, water developments, fences, and structures) to reduce the threat (habitat loss, fragmentation, productivity, disease vector production) to GRSG and their habitat?**
- **What measures would the BLM and Forest Service put in place to protect and improve GRSG habitat while maintaining grazing privileges?**
- **What measures would be put in place to manage habitat for other wildlife species and reduce conflicts with GRSG?**
- **What measures would the BLM and Forest Service put in place to reduce the impacts of wild horses and burros on GRSG habitat?**

Management and Monitoring

Effective conservation strategies are predicated on identifying key areas across the landscape that are necessary to maintain redundant, representative, and resilient populations. Delineation of key GRSG habitats recognizes the extensive reach of habitat threats and the existing loss and degradation of habitats, and acknowledges that preservation of every remaining area of GRSG habitat is improbable (Kiesecker et al. 2011; USFWS 2013). With input from the state wildlife agencies, the BLM and Forest Service have identified PPH and PGH. These areas, along with the PACs identified by USFWS, form a foundation to assess application of habitat designations and related management actions as part of this effort.

Issues:

- **How would the BLM and Forest Service use the best available science to designate priority and general habitat categories for GRSG habitat within the planning area?**
- **How would the BLM and Forest Service accurately monitor the impact of land uses on GRSG and its habitat?**



Urbanization and Agricultural Conversion

Ex-urban development (dispersed homes on small acreages) results in direct habitat loss, habitat fragmentation, and the introduction of invasive plants species. Urban and ex-urban activities also increase the presence of predator subsidies (e.g., trash, landfills and bird feeders) allowing for increased predators associated with humans that may have disproportionate impacts on GRSG (e.g., red fox, skunks, and raccoons). Agricultural conversion is typically defined as the conversion of sagebrush habitats to tilled agricultural crops or re-seeded exotic grass pastures, resulting in habitat loss and fragmentation. The USFWS conservation objectives listed below for the following threats are applicable to this planning issue:

- Ex-urban development – limit urban and ex-urban development in GRSG habitats and maintain intact native sagebrush plant communities
- Agricultural conversion – avoid further loss of sagebrush habitat for agricultural activities (both plant and animal production) and prioritize restoration (USFWS 2013)

Issues:

- **What opportunities exist to adjust public land ownership that would increase management efficiency for GRSG and their habitat?**
- **How would the BLM and Forest Service manage lands and realty decisions to reduce habitat fragmentation and conversion of GRSG habitat?**
- **How would the BLM and Forest Service evaluate, authorize, and implement land tenure adjustments to reduce the conversion of (habitat loss and fragmentation) GRSG habitat to agricultural or urbanization uses?**

Social and Economic Concerns

Management of the BLM- and Forest Service-administered lands within the sub-region affect the economies of the associated counties and states. Conversely, the local demographics, social structure, and values within the counties and states influence the demand for uses and opportunities provided by the BLM- and Forest Service-administered lands. In many counties, management uses (mining, grazing, energy development) of the BLM- and Forest Service-administered lands are a vital component of the economic and social stability in these counties. Noncommodity values around aesthetics and recreation opportunities can also play an important role in local economics and sense of place.

Issue:

- **How could the BLM and Forest Service promote or maintain activities that provide social and economic benefit to local communities while providing protection for GRSG habitat?**

Special Management Designations

The BLM and Forest Service have the ability to designate and manage unique and important areas for their associated values. The BLM calls these ACECs and the Forest Service calls these Zoological Areas. Several ACECs already exist within the sub-region. These areas prescribe management to protect the unique values identified during their designation. Existing special management areas such as Wilderness, Wilderness Study Areas (WSAs), and Wild and Scenic Rivers, may in some areas protect GRSG by restricting resource uses in these areas.

Issue:

- **What areas would be designated by the BLM or Forest Service to benefit the maintenance, enhancement, and restoration of GRSG and GRSG habitat?**

Analysis Issues

The following issues were identified through the internal and external scoping process; however, they were not used to drive the development of the alternatives. They will be displayed as components of the analysis in **Chapter 4** and may show differences between the effects of the alternatives.

Issues:

- **How would the BLM and Forest Service protect water and soil resources in order to benefit GRSG habitat?**
- **How would the BLM and Forest Service incorporate the analysis of the impacts of a changing climate on GRSG habitat?**

Issues not Addressed

The following discussion describes various comments or issues raised during the scoping period which are outside the scope of this LUPA process. This discussion is taken from the May 2012 National Greater Sage-Grouse Planning Strategy Scoping Summary Report (BLM 2012).

Comments related to national policy decisions and issues outside the scope of the LUPA will not be addressed as part of this planning effort, including decisions on BLM- and Forest Service-administered lands within the purview of other planning efforts or decisions made by other federal, state, or local agencies.

National Policy Decisions

Commenters expressed concern with decisions at the national level, including, but not limited to, the LUP revision process and implementation of NEPA, decisions on wilderness and WSAs, and hunting regulations on federal lands.



Outside the Scope of the Planning Effort

Commenters expressed concern with development and management of GRSG on decisions outside of the BLM and Forest Service jurisdiction. Specific themes included the following:

- How will the BLM and Forest Service work with wildlife management agencies to ensure appropriate management of hunting for GRSG on both public and private lands?

Many commenters questioned why hunting of GRSG is allowed if the bird is in need of protection. Others stated that hunting should be used as a method to control GRSG predators.

Hunting is regulated by state wildlife agencies; these comments therefore relate to state-regulated actions and are outside the scope of the current planning effort. Additionally, hunting opportunities for GRSG have been reduced in response to general population declines of known origin (e.g., disease and habitat loss) and unknown origin. While hunting has not been demonstrated as the primary cause of decline in GRSG populations, the cautionary recommendations outlined in the Sage-Grouse management guidelines (Idaho Sage-Grouse Advisory Committee 2006) and Connelly et al. (2000) remain appropriate.

- How did the USFWS determine the warranted but precluded decision?

Commenters questioned population levels and the need to incorporate range-wide conservation measures. Others questioned the effectiveness of ESA listing as a method of species conservation.

These comments relate to decisions under the purview of the USFWS and will not be addressed in the current planning effort.

- How can the BLM and Forest Service manage livestock grazing?

Commenters asked that grazing be limited or completely stopped due to detrimental ecosystem effects. Other stated that grazing programs should be reformed as the requirements are too limiting and impact ranchers' livelihoods. In addition, some commenters state that grazing provides habitat enhancements for sensitive species.

Decisions about national livestock grazing policies would not be made in this planning effort.

- How should renewable energy be managed and developed in relation to economic instability and wildlife mortality?

Commenters stated concerns about renewable energy development, including economic instability due to government subsidies and risk of wildlife mortality, specifically for bats and birds.

General decisions about renewable energy management on BLM- and Forest Service-administered lands are outside the scope of this planning effort.

In addition, comments were received related to issues that are outside the scope of this effort, including the following:

- Compensation of private land owners for conservation efforts and off-site mitigation
- BLM and Forest Service funding
- Designation of Special Management Areas
- NEPA procedures and costs

In addition to these issues described in the Scoping Summary Report, feedback specific to the Idaho and Southwestern Montana Sub-region and predator control was provided to BLM through public meeting comments and cooperating agency feedback. While predation is included in several of the planning issues as a concern related to development, actual predator control activities are outside the authority of the BLM and Forest Service and, therefore, will not be considered further in the planning process.

1.6 Development of Planning Criteria

Planning criteria are based on appropriate laws, regulations, BLM and Forest Service Manual and Handbook sections, and policy directives, as well as on public participation and coordination with cooperating agencies, other federal agencies, state and local governments, and Native American tribes. Planning criteria are the standards, rules, and factors used as a framework to resolve issues and develop alternatives. Planning criteria are prepared to ensure decision making is tailored to the issues and to ensure that the BLM and Forest Service avoid unnecessary data collection and analysis.

1.6.1 Preliminary Planning Criteria

- The BLM and Forest Service will use the WAFWA *Conservation Assessment of Greater Sage-Grouse and Sagebrush Habitats* (Connelly et al. 2004) and any other appropriate resources (e.g., Knick et al. 2011) to identify GRSG habitat requirements and best management practices.
- The approved LUPA will be consistent with the BLM's National Greater Sage-Grouse Conservation Strategy.
- The approved LUPA will comply with FLPMA, NEPA, and CEQ regulations at 40 CFR, Parts 1500-1508; Department of the Interior regulations at 43 CFR and 46 and 43 CFR, Part 1600; the BLM H-1601-1 Land Use Planning Handbook, Appendix C: Program-Specific and Resource-Specific Decision Guidance Requirements, as amended, for affected resource programs; the 2008 BLM NEPA Handbook (H-1790-1); and all other applicable BLM policies and guidance.
- The approved LUPA will comply with NFMA, NEPA, CEQ regulations at 40 CFR, Parts 1500-1508; Regulations of the Secretary of Agriculture at 36 CFR,



Part 219; Forest Service Manual 1920; and Forest Service Handbooks 1909.12 and 1909.15.

- The LUPA will be limited to providing land use direction or to amending certain program-specific decisions, for the conservation of GRSG habitats on BLM- and Forest Service-administered lands in the planning area.
- The BLM and Forest Service will consider allocations and prescriptive standards to conserve GRSG habitat, as well as objectives and management actions to restore, enhance, and improve GRSG habitat.
- The LUPA will recognize valid existing rights and authorizations, such as mining claims, mineral leases, and approved mineral operating plans.
- Lands addressed in the LUPA will be BLM- and Forest Service-administered lands (including split-estate lands) in GRSG habitats. Any decisions in the LUPAs will apply only to BLM- and Forest Service-administered lands.
- The BLM and Forest Service will use a collaborative and multi-jurisdictional approach with the public and adjacent jurisdiction, where appropriate, to determine the desired future condition of BLM- and Forest Service-administered lands for the conservation of GRSG and their habitats and to consider the impacts of proposed actions on all the resources in the region.
- As described by law and policy, the BLM and Forest Service will strive to ensure that conservation measures are as consistent as possible with other planning jurisdictions within the planning area boundaries.
- The BLM and Forest Service will consider a range of reasonable alternatives, including appropriate management prescriptions that focus on the relative values of resources while contributing to the conservation of the GRSG and its habitat.
- The BLM and Forest Service will address socioeconomic impacts, including environmental justice, of the alternatives. Socio-economic analysis will use an accepted input-output quantitative model such as IMPLAN, RIMSII, or JEDI for renewable energy analysis.
- The BLM and Forest Service will use best available scientific information, research, technologies, and results of inventory, monitoring, and coordination consistent with the Information Quality Act, to determine appropriate local and regional management strategies that will enhance or restore GRSG habitats.
- Management of GRSG habitat that intersects with WSAs on BLM-administered lands will be guided by BLM Manual 6330 Management of Wilderness Study Areas. Land use allocations made for WSAs must be consistent with Manual 6330 and with other laws, regulations, and policies related to WSA management.
- Management of other special designation areas (e.g., Wild and Scenic Rivers, National Historic Trails, Wilderness Areas, National Monuments, National

Conservation Areas) will be guided by the appropriate BLM and Forest Service manual or handbook.

- Management of GRSG habitat that intersects with Forest Service-administered wilderness areas will be guided by Forest Service Manual 2300 – Recreation, Wilderness, and Related Resource Management.
- For BLM-administered lands, all activities and uses within GRSG habitats will follow existing land health standards. Standards and guidelines (S&G) for livestock grazing and other programs that have developed S&Gs will be applicable to all alternatives for BLM-administered lands.
- Management of Forest Service-administered lands for livestock grazing will follow guidance in Forest Service Manual (FSM) 2200, Range Management, and Forest Service Handbook (FSH) 2209.13, Grazing Permit Administration.
- For Forest Service-administered lands, all activities and uses within GRSG habitats will follow guidelines in Forest Manual 2500 – Watershed and Air Management.
- The BLM and Forest Service will consult with Native American tribes to identify sites, areas, and objects important to their cultural and religious heritage within GRSG habitats.
- The BLM and Forest Service will coordinate and communicate with state, local, and tribal governments to ensure that the BLM and Forest Service consider provisions of pertinent plans, seek to resolve inconsistencies between state, local, and tribal plans, and provide ample opportunities for state, local, and tribal governments to comment on the development of amendments.
- The BLM and Forest Service will develop vegetation management objectives, including objectives for managing noxious weeds and invasive species (including identification of desired future condition for specific areas), within GRSG habitat.
- The LUPA will be based on the principles of adaptive management.
- Reasonable Foreseeable Development Scenarios (**Appendix B**) and planning for Fluid Minerals will follow the BLM Handbook H-1624-1 and current fluid minerals manual guidance for fluid mineral (e.g., oil and gas, coal-bed methane, and oil shale) and geothermal resources. For mineral resources on Forest Service-administered lands, the Forest Service will apply guidance provided in Forest Manual 2800 – Minerals and Geology, as applicable.
- The LUPA will be developed using an interdisciplinary approach to prepare reasonable foreseeable development scenarios, identify alternatives, and analyze resource impacts, including cumulative impacts on natural and cultural resources and the social and economic environment.



- The most current approved BLM and Forest Service corporate spatial data will be supported by current metadata and will be used to ascertain GRSG habitat extent and quality. Data will be consistent with the principles of the Information Quality Act of 2000.
- State wildlife agencies' GRSG data and expertise will be used to the fullest extent practicable in making management determinations on federal lands.

1.7 Relationship to Other Policies, Plans and Programs

This planning process will recognize the many ongoing programs, plans, and policies that are being implemented in the planning area by other land managers and government agencies. The BLM and Forest Service will seek to be consistent with or complementary to other management actions whenever possible.

1.7.1 Federal Plans

Federal plans that will be considered during the GRSG planning effort include, but are not limited to, the following:

- Vegetation Treatment on BLM Lands in Thirteen Western States (BLM 1991a)
- Final Vegetation Treatments on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement and Associated Record of Decision. USDI, Bureau of Land Management, 2007 (FES 07-21)
- Final Vegetation Treatments on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Report. USDI, Bureau of Land Management, 2007 (FES 07-21)
- Approved Resource Management Plan Amendments/Record of Decision for Designation of Energy Corridors on Bureau of Land Management-Administered Lands in the 11 Western States, January 2009, and the ROD on Forest Service Designation of Section 368 Energy Corridors on National Forest System Lands in 10 Western States (Forest Service 2009)
- BLM and Forest Service Final Programmatic Environmental Impact Statement for Geothermal Leasing In the Western United States (2008) and associated Records of Decision and Management Plan Amendments
- Final Programmatic Environmental Impact Statement on Wind Energy Development on BLM-administered Lands in the Western United States. FES 05-11. June 2005
- Final Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States. October 2012
- Supplement to the Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States. October 2011

- Greater Sage-grouse (*Centrocercus urophasianus*) Conservation Objectives: Final Report. USFWS, February 2013
- Forest Service oil and gas leasing availability analyses prepared to comply with 36 CFR, Part 228.102

1.7.2 State Plans

State plans that will be considered during the GRSG planning effort include the following:

- Greater Sage-Grouse Comprehensive Conservation Strategy. National Sage-Grouse Conservation Planning Framework Team, Western Association of Fish and Wildlife Agencies, 2006
- Montana Greater Sage-Grouse Habitat Conservation Strategy, 2009
- Management Plan and Conservation Strategies for Sage-Grouse in Montana – Final, Montana Sage Grouse Work Group, 2005
- Conservation Plan for the Greater Sage-Grouse in Idaho, as amended, Idaho Sage-Grouse Advisory Committee, 2009
- Idaho Energy Plan, Idaho Governor’s Office of Energy Resources, 2012
- Idaho Invasive Species Strategic Plan 2012-2016
- Idaho Greater Sage-Grouse Local Working Group (LWG) Plans
 - Big Desert
 - Challis
 - Curlew Valley
 - Dillon
 - East Idaho Uplands
 - Jarbidge
 - North Magic Valley
 - Owyhee County
 - Shoshone Basin
 - Upper Snake
 - West Central

1.7.3 County Plans

County plans that will be considered during the GRSG planning effort are listed in Table 1-5, County Land Use and Sage-Grouse Management Plans. Blank rows indicate that the given county does not have a Land Use or Sage-Grouse Management Plan.



Table 1-5
County Land Use and Sage-Grouse Management Plans

County	Type	Adoption Date
Idaho		
Ada	Comprehensive	November 26, 2007
Adams	Comprehensive	May 2006
Bear Lake		
Bingham	Comprehensive	March 2005
Blaine	Comprehensive	November 7, 1994
Bonneville	Comprehensive	January 5, 1995
Butte		
Camas		
Caribou	Comprehensive	May 22, 2006
Cassia	Comprehensive	September 1, 2006
Clark	Comprehensive	November 11, 2010
Custer	Comprehensive Sage-Grouse	December 11, 2006 March 29, 2013
Elmore	Comprehensive	August 9, 2004
Fremont	Comprehensive	December 17, 2008
Gem	Comprehensive	January 19, 2010
Gooding	Comprehensive	May 3, 2010
Jefferson	Comprehensive	January 15, 2005
Jerome	Comprehensive	April 27, 2006
Lemhi	Comprehensive	October 9, 2012
Lincoln	Comprehensive	May 7, 2008
Madison	Comprehensive	March 25, 2008 in Draft
Minidoka	Comprehensive	Pending Approval
Oneida	Comprehensive	2011
Owyhee	Comprehensive Sage-Grouse Energy	August 9, 2010 April 8, 2013 December 4, 2007
Payette	Comprehensive	May 8, 2006
Power	Comprehensive	June 8, 2009
Twin Falls	Comprehensive	July 5, 1995
Washington	Comprehensive	October 19, 2010
Montana		
Beaverhead	Growth Policy	June 20, 2005
Deer Lodge	Growth Policy	December 12, 2005
Gallatin	Growth Policy	April 15, 2003
Madison?	Growth Policy	September 2006
Silver Bow	Growth Policy	2008
Utah		
Box Elder		

1.7.4 Endangered Species Recovery Plans

Endangered species recovery plans are prepared by the USFWS to promote the recovery of threatened and endangered species. The following geographically relevant endangered species recovery plans have been identified:

- Draft Recovery Plan for Three of the Five Distinct Population Segments of Bull Trout (*Salvelinus confluentus*)
- Draft Recovery Plan for the Jarbidge River Distinct Population Segment of Bull Trout
- Northern Rocky Mountain Wolf Recovery Plan
- Recovery Plan for the Bruneau Hot Springsnail (*Pyrgulopsis bruneauensis*)
- Recovery Plan for the Northern Idaho Ground Squirrel
- Revised Grizzly Bear Recovery Plan
- Snake River Aquatic Species Recovery Plan

1.7.5 Memoranda of Understanding

There are several memoranda of understanding (MOU) in effect that pertain to management of resources on BLM- and Forest Service-administered lands. These include:

- Between the BLM and the Forest Service Concerning Oil and Gas Leasing Operations (2006). The purpose of this MOU is to establish joint BLM and Forest Service policies and procedures for managing oil and gas leasing and operational activities pursuant to oil and gas leases on Forest Service-administered lands, consistent with applicable law and policy. The MOU was signed in 2006 for the purpose of efficient, effective compliance with statutory and regulatory requirements. The MOU establishes the roles of the Forest Service and the BLM in processing Applications for Permits to Drill and review of subsequent operations.
- Between the BLM and the Forest Service concerning Implementation of Section 225 of the Energy Policy Act of 2005 Regarding Geothermal Leasing and Permitting (2006).
- Interagency Agreements between the BLM and Forest Service concerning Mineral Leasing (1984) and Leasable Mineral Operations (1987). These agreements currently pertain to management of leasable minerals other than oil and gas and geothermal.
- Between the Department of the Interior, the USDA and the US Environmental Protection Agency Regarding Air Quality Analyses and Mitigation for Federal Oil and Gas Decisions Through the NEPA Process (2011). Through the MOU, the signatories commit to a clearly defined, efficient approach to compliance with



the NEPA regarding air quality and air quality related values (AQRVs), such as visibility, in connection with oil and gas development on Federal lands.

- Between the WAFWA, the Forest Service, Natural Resources Conservation Service (NRCS), Farm Service Agency, the BLM, USFWS, and USGS (2008). The purpose of the MOU is to provide for cooperation among the participating State and federal land, wildlife management and science agencies in the conservation and management of GRSG sagebrush (*Artemisia* spp.) habitats and other sagebrush-dependent wildlife throughout the Western United States and Canada.
- Between the Idaho BLM and Nevada BLM regarding management responsibility and authority regarding lands in Nevada but accessed through Idaho.
- Between Twin Falls District BLM and Elko District BLM (2013) clearly identifying the administrative boundaries between the districts as the Nevada/Idaho state line within the China Butte, Player Butte, Player Canyon, and Horse Creek allotments, and defines the Twin Falls District and Elko District management responsibilities in the Nevada portions of the identified allotments.
- Between the State of Idaho (Governor's Office, Idaho Department of Fish and Game [IDFG], Office of Species Conservation [OSC], Idaho Department of Agriculture [IDA]) and the BLM and USDA (Forest Service, Animal and Plant Health Inspection Service [APHIS], NRCS) for the purpose of supporting and implementing the intent and actions contained in the 2006 Conservation Plan for the Greater Sage-Grouse in Idaho.
- Montana Idaho Airshed Group MOU, which includes federal, state, and private partners and encompasses prescribed burning activities on federal lands (e.g., pile burns and seedbed preparation).
- Between the Forest Service Sawtooth National Forest Minidoka Ranger District and the BLM Twin Falls District Burley Field Office concerning consolidated management of the Forest Service Goose Creek Allotment and the BLM West Goose Creek Allotment.
- Between the BLM and APHIS (2012) for the purpose of establishing guidelines to assist field personnel in carrying out their wildlife damage management responsibilities.
- Between the BLM and the Department of Energy (2011) regarding grazing, ROWs, fire suppression and other aspects of shared management of lands within the Idaho National Laboratory.
- While it is not an MOU, the BLM Dillon Field Office is a signatory on the Montana Cooperative Fire Management and Stafford Act Response Agreement; a multiparty agreement involving various federal and county agencies regarding fire suppression efforts.

In addition, the BLM has entered into numerous MOUs with various federal, state, and county agencies for the purpose of establishing cooperating agencies for the BLM and Forest Service National Greater Sage-Grouse Planning Strategy. The following agencies and entities have established cooperating agency status for the purpose of working on the Idaho and Southwestern Montana Sub-regional GRSG planning effort:

- **Federal**

- USFWS
- Forest Service
 - o Beaverhead-Deerlodge National Forest
 - o Boise National Forest
 - o Caribou-Targhee National Forest
 - o Salmon-Challis National Forest
 - o Sawtooth National Forest
- NRCS
- National Park Service – Craters of the Moon National Monument and Preserve
- Department of Energy – Idaho National Laboratory

- **State**

- Idaho Department of Fish and Game
- Idaho Office of Species Conservation
- Montana Fish Wildlife and Parks

- **County**

- Idaho Association of Counties
- Bingham County, Idaho
- Blaine County, Idaho
- Box Elder County, Utah (through the Utah BLM State Office)
- Cassia County, Idaho
- Clark County, Idaho
- Custer County, Idaho
- Fremont County, Idaho
- Jefferson County, Idaho
- Lemhi County, Idaho



- Owyhee County, Idaho
- Power County, Idaho
- Twin Falls County, Idaho
- Beaverhead County, Montana
- Madison County, Montana

1.7.6 Activity Plans and Amendments

Each BLM field office and Forest Service district has many specific planning documents including: allotment management plans, livestock management plans, activity plans, coordinated resource management plans, cooperative resource management plans, habitat management plans, fire management plans, and normal fire rehabilitation plans.

1.7.7 Habitat Management Plans

A Habitat Management Plan (HMP) provides guidance for the management of a defined habitat for a target wildlife species, protecting and improving habitat for that species and for other species utilizing the habitat. These plans are usually written in coordination with State Wildlife Agencies. Idaho Department of Fish and Game has a variety of fish and wildlife management plans which are either species specific (e.g., mule deer, elk, bighorn sheep, and Yellowstone cutthroat trout) or statewide in scope (e.g., Comprehensive Wildlife Conservation Strategy and Fisheries Management Plan). The plans most relevant to the GRSG in the Idaho and Southwestern Montana subregion are the Idaho 2006 Conservation Plan for GRSG and the Montana 2005 Management Plan and Conservation Strategies for GRSG.

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Chapter 2

Alternatives



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Chapter 2. Alternatives

2.1 Background

The LUPA/EIS complies with NEPA, which directs the BLM to “study, develop, and describe appropriate alternatives to recommended courses of action in any proposal that involves unresolved conflicts concerning alternative uses of available resources...” (NEPA Section 102[2][e]). At the heart of the alternative development process is the required development of a range of reasonable alternatives. Public and internal (within BLM and Forest Service) scoping (see **Chapter 1**) identified issues that present opportunities for alternative courses of action, while the purpose and need for action provides sideboards for determining “reasonableness.”

This chapter details the No Action Alternative (which would continue the existing policies of the BLM and Forest Service); 5 action alternatives (including the Preferred Alternative); and a discussion of alternatives considered but eliminated from detailed analysis. Figures at the end of this chapter show where actions are applicable. The alternatives are directed towards responding to USFWS-identified issues and threats to GRSG and their habitat and creating management consistency for GRSG and their habitat across the range of the species to the extent possible.

2.1.1 How to Read This Chapter

This chapter presents alternative management direction for the sub-regional planning area. The chapter begins with an introduction to the development of alternatives, including specific information regarding the alternatives developed for the Idaho and Southwestern Montana Sub-Regional LUPA/EIS. Each alternative is briefly described, followed by a description of alternatives considered and eliminated from further analysis. Several partial alternatives (either incomplete geographically or which did not include the entire array of program areas to be discussed) were also submitted for consideration. These alternatives are described and their components are included within the range of alternatives considered for detailed analysis.

The chapter continues with a detailed description of the alternatives considered for full analysis. Each alternative is composed of two broad components: 1) delineation and/or designation of GRSG habitat; and 2) goals, objectives, allocations and management actions to be applied within the habitat designations. The chapter concludes with a brief description of the differences between alternatives with regard to goals, objectives, allocations and management actions and the potential effects of those decisions.

The goals, objectives, allocations and management actions are broadly grouped in relation to the threats to GRSG: wildfire (suppression, fuels, rehabilitation); vegetation (invasive species, conifer encroachment, rehabilitation and restoration and livestock management); development (oil and gas, geothermal, mining, renewable energy and associated ROWs and infrastructure); human disturbance (construction, travel, recreation); disease and predation (development and human disturbance); and adaptive management, mitigation and monitoring.

2.1.2 Alternative Development Process

Alternatives development is the heart of the LUPA and EIS process. Land use planning regulations and NEPA require the BLM and Forest Service to develop a range of reasonable alternatives during the planning process. Alternatives must also fall within the established planning criteria (43 CFR Section 1610).

The LUP process consists of identifying and clearly defining goals and objectives (desired outcomes) for resources and resource uses, followed by developing allowable uses and management actions necessary for achieving the goals and objectives. These critical determinations guide future land management actions and subsequent site-specific implementation actions to meet multiple use and sustained yield mandates while maintaining land health.

Goals are broad statements of desired outcomes (LUP-wide and resource or resource-use specific) and are not quantifiable or measurable. Objectives are specific measurable desired conditions or outcomes intended to meet goals; in addition, Forest Service objectives are time specific (36 CFR 219.7[a][2][ii]). While goals are the same across alternatives, objectives typically vary, resulting in different allowable uses and management actions for some resources and resource uses.

For the BLM, management actions and allowable uses are designed to achieve objectives. Management actions are measures that guide day-to-day and future activities. Allowable uses delineate which uses are permitted, restricted, or prohibited, and may include stipulations or restrictions. This LUPA makes no suitability determinations for Forest Service-administered lands. Allowable uses also identify lands where specific uses are excluded to protect resource values, or where certain lands are open or closed in response to legislative, regulatory, or policy requirements. Implementation decisions are site-specific on-the-ground actions and are typically not addressed in LUPs.

For the Forest Service, standards and guidelines are established to help achieve or maintain a desired condition or conditions, to avoid or mitigate undesirable effects, or to meet applicable legal requirements (36 CFR 219.7[e][1]). Standards are mandatory constraints on project and activity decision making (36 CFR 219.7[e][1][iii]). Guidelines are constraints on project and activity decision making that allows for departure from its terms, so long as the purpose of the guideline is met (36 CFR 219.7[e][1][iv]).

CEQ regulations require including the No Action Alternative (40 CFR 1502.14[d]) even if it does not meet the purpose and need for the proposed action (**Section 1.2**, Purpose and Need). The No Action Alternative provides a useful baseline for comparison of environmental effects (including cumulative effects) and demonstrates the consequences of not meeting the need for the action. For this LUPA/EIS, the No Action Alternative was developed by reviewing and analyzing all of the BLM and Forest Service LUPs within the Idaho and Southwestern Montana Sub-region for management decisions related to GRSG and their habitat.

In addition to the No Action Alternative, five action alternatives were developed. These alternatives are the result of extensive consultation and coordination with the public, tribes, cooperating agencies, and stakeholders (**Chapter 5**, Consultation and Coordination). All of the action alternatives were developed to meet the purpose and need for the proposed action and to address the planning issues (**Section 1.5**, Scoping and Identification of Issues for Development of the Proposed Plan and Draft Alternatives). The basic goal of developing alternatives is to prepare different possible management scenarios that:

- Address the identified planning issues;
- Explore opportunities to enhance or expand resources or resource uses;
- Resolve conflicts among resources and resource uses; and
- Meet the purpose of and need for the LUP.

Achievement of this goal will help the BLM, Forest Service, and the public understand the various ways of addressing conflicts concerning alternative uses of available resources, as well as provide the BLM and Forest Service decision makers a range of reasonable alternatives with which to make an informed decision. The components of the alternatives and the management direction of each alternative are discussed in **Section 2.6**, Detailed Description of Alternatives.

The alternatives are intended to address the USFWS-identified issues and threats to GRSG and their habitat. All of the action alternatives were developed to utilize resource programs in BLM and Forest Service LUPs to address the USFWS-identified threats to GRSG and their habitat. Table 2-1, USFWS-Identified Threats to Greater Sage-Grouse and Their Habitat and Applicable BLM and Forest Service Resource Programs for Addressing Threats*, lists the USFWS-identified threats and the applicable resource programs in BLM and Forest Service LUPs that can address those threats. Decisions listed in **Table 2-1** are meant to provide LUP-level guidance for implementation of subsequent site-specific decisions.

Table 2-1
USFWS-Identified Threats to Greater Sage-Grouse and Their Habitat and Applicable BLM and Forest Service Resource Programs for Addressing Threats*

USFWS-identified Threat to Greater Sage-Grouse and Their Habitat	Applicable BLM and Forest Service Resource Program for Addressing the Threat
Invasive Species	Program: Vegetation Decisions: Weed control, suppression, or eradication via natural processes; restrictions on allowable uses; active management or treatment
Fire	Program: Wildland Fire Management Decisions: Changes to fire management strategies; identify areas suitable and unsuitable for managed wildfire and the use of prescribed fire; identify priority areas for suppression

Table 2-1
USFWS-Identified Threats to Greater Sage-Grouse and Their Habitat and Applicable BLM and Forest Service Resource Programs for Addressing Threats*

USFWS-identified Threat to Greater Sage-Grouse and Their Habitat	Applicable BLM and Forest Service Resource Program for Addressing the Threat
Infrastructure	Program: Lands and Realty – Utilities Decisions: Issue ROW grant; identify ROW avoidance or exclusion areas; identify utility corridors
	Program: Lands and Realty – Communication Sites Decisions: Issue ROW grant; identify ROW avoidance or exclusion areas
	Program: Range Management, Wild Horse and Burro, Recreation, Fish and Wildlife Decisions: Installation or removal of fences, water developments (springs, tanks, windmills, etc.)
	Program: Water Resources – Fences/culverts/stream crossings Decisions: Installation or removal of fences, culverts or stream crossings
	Program: Comprehensive Trails and Travel Management – Roads Decisions: Identify travel management areas; identify modes of access and travel; identify areas open, limited, or closed to OHVs
	Program: Lands and Realty – Railroads Decisions: Issue ROW grant; Identify ROW avoidance or exclusion areas
Agriculture	Program: Lands and Realty Decisions: Identify retention, disposal, and acquisition areas
Conifer Invasion	Program: Vegetation Decisions: Conduct vegetation treatments
Grazing	Program: Range Management Decisions: Identify acres open and closed to grazing; establish animal unit-months (AUMs); manage grazing systems; conduct range improvements; identify season of use; identify stocking rates
	Program: Wild Horse and Burro Decisions: Identify herd areas and herd management areas
	Program: Special Status Species Decisions: Identify habitat management
Urbanization	Program: Lands and Realty Decisions: Identify retention, disposal, and acquisition areas
Predation	Program: Lands and Realty Decisions: Establish design features and best management practices (BMPs)
Disease	Program: Water Resources Decisions: Establish design features and BMPs
	Program: Minerals Decisions: Establish design features and BMPs
Prescribed Fire	Program: Wildland Fire Management Decisions: Establish fire management strategies; identify areas suitable and unsuitable for the use of prescribed fire

Table 2-1
USFWS-Identified Threats to Greater Sage-Grouse and Their Habitat and Applicable BLM and Forest Service Resource Programs for Addressing Threats*

USFWS-identified Threat to Greater Sage-Grouse and Their Habitat	Applicable BLM and Forest Service Resource Program for Addressing the Threat
Oil and Gas	Program: Fluid Minerals Decisions: Identify open and closed areas to fluid mineral leasing; Identify open areas with No Surface Occupancy (NSO), Controlled Surface Use (CSU), Timing Limitation (TL) stipulations
	Program: Lands and Realty Decisions: Issue ROW grant; identify ROW avoidance or exclusion areas
Water Development	Program: Range Management Decisions: Identify number, location, and type of range water developments
Hunting	There is no resource program for addressing this threat to GRSG and their habitat. Management of hunting is typically carried out at the state level.
Climate Change	There is no resource program for addressing this threat to GRSG and their habitat. This threat, however, is addressed in the cumulative effects analyses in Section 4.15 .

* Each action alternative includes required design features (RDFs) or BMPs that are designed to reduce effects of activities on GRSG. Alternatives B, C, D, and F RDFs are located in **Appendix C**; Alternative E BMPs are included in **Appendix D**.

The BLM and Forest Service complied with NEPA and the CEQ implementing regulations at 40 CFR Part 1500 in the development of alternatives for this draft LUPA/EIS, including seeking public input and analyzing reasonable alternatives. Since this is a plan amendment to address GRSG conservation, unrelated decisions from existing field office or forest LUPs remain acceptable and reasonable. For these unrelated decisions, there is no need to develop alternative management prescriptions or guidance.

Public input received during the scoping process was considered to ensure that all issues and concerns would be addressed, as appropriate, in developing the alternatives. The planning team developed planning issues to be addressed in the LUPA, based on broad concerns or controversies related to conditions, trends, needs, and existing and potential uses of planning area lands and resources.

2.1.3 Developing Alternatives for the Idaho and Southwestern Montana Sub-Region

The Boise, Idaho Falls, Twin Falls, and Western Montana BLM District Offices administer the 21 pertinent BLM LUPs being amended by this LUPA/EIS, covering approximately 9.3 million acres of GRSG habitat and certain program-level plans (such as oil and gas leasing analyses) after eight Forest Service LUPs. In addition, eight Forest Service LUPs, administered by Forest Service Regions 1 and 4 and covering approximately 1.9 million acres, would be amended by this LUPA/EIS. The Dillon Field Office RMP and Beaverhead-

Deerlodge National Forest Plan updated their LUPs in 2008 and 2009, respectively, and included management guidance specifically addressing GRSG. The BLM and Forest Service implemented the first four steps of the BLM's planning process (see **Section 1.4.1**, BLM Planning Process) in developing a reasonable range of alternatives: identification of issues, development of planning criteria, inventory data and information collection. The issue identification and current management assessment processes began in 2011 with an extensive review by the BLM and Forest Service interdisciplinary team of current land management decisions and direction from the 29 LUPs being amended by this LUPA/EIS. From this, the BLM and Forest Service identified preliminary planning issues that could be addressed in an LUP amendment. A list of LUPs within the Idaho and Southwestern Montana Sub-region that would be amended by this effort is found in **Chapter 1, Table 1-1**.

As discussed in **Section 1.5**, Scoping and Identification of Issues, preliminary planning issues were distributed during the scoping process for public comment, along with a request to identify additional issues. Based on scoping and public participation efforts, the BLM and Forest Service identified 13 planning issue categories in the Summary Scoping Report (BLM and Forest Service 2012). These have been refined for the planning area and are detailed in **Section 1.5**, Scoping and Identification of Issues. Planning issues are concerns or controversies about existing and potential land and resource allowable uses, levels of resource use, production, and related management practices. Planning issues are well defined or topically discrete and should be addressed in the management decisions identified in the Alternatives. As this definition suggests, the alternatives will identify different ways to resolve each planning issue. The results of public scoping are detailed in National Greater Sage-Grouse Planning Strategy Land Use Plan Amendments and Environmental Impact Statements Scoping Summary Report (BLM and Forest Service 2012).

Between May and September 2012, the planning team (BLM, Forest Service, and cooperating agencies) met to develop management goals and to identify objectives and actions to address the goals. The various groups met numerous times throughout this period to refine their work. As outcomes of this process, the planning team accomplished the following:

- Developed one No Action Alternative (Alternative A) and three preliminary action alternatives. The first action alternative (Alternative B) is based on A Report on National Greater Sage-Grouse Conservation Measures (NTT 2011), and the two additional action alternatives (Alternative C and F) are based on proposed alternatives submitted by various conservation groups.
- Customized the objectives and actions from the NTT-based alternative (Alternative B) to develop a third action alternative (Alternative D) that strives for balance among competing interests.
- Incorporated proposed GRSG protection measures recommended by state governments as a fifth alternative (Alternative E).

2.1.4 Range of Reasonable Alternatives

The five resulting action alternatives (Alternatives B, C, D, E and F) offer a range of possible management approaches for responding to planning issues and concerns identified through public scoping, and to maintain, enhance or restore GRSG abundance and distribution in the planning area. While the goal is the same across alternatives, each alternative contains a discrete set of objectives and management actions and constitutes a separate LUPA with the potential for different long-range outcomes and conditions.

The relative emphasis given to particular resources and resource uses differs as well, including allowable uses, restoration measures, and specific direction pertaining to individual resource programs.

All of the action alternatives were developed to employ resource programs to address the USFWS-identified threats to GRSG and their habitat. **Table 2-1**, USFWS-Identified Threats to Greater Sage-Grouse and Their Habitat and Applicable BLM and Forest Service Resource Programs for Addressing Threats*, identifies the threats and the applicable BLM-resource programs in LUPs for addressing the threats. The major threats to GRSG identified by USFWS in WAFWA Management Zones 2 and 4 include wildfire, invasive species, infrastructure development, agricultural expansion, urbanization and improper livestock grazing (Manier et al. 2013, pp. 253-256).

Meaningful differences among the six alternatives are described in **Table 2-2**, Comparative Summary of Alternatives by Acres Allotted¹, and **Table 2-3**, Description of Alternatives. These tables also provide a complete description of proposed decisions for each alternative, including the project goal and objectives, management actions, and allowable uses for individual resource programs. Figures at the end of this chapter provide a visual representation of differences between alternatives. In some instances, varying levels of management overlap a single polygon due to management prescriptions from different resource programs. In instances where varying levels of management prescriptions overlap a single polygon, the stricter of the management prescriptions would apply.

2.2 Brief Alternative Descriptions

The analyzed alternatives were formulated in response to issues and concerns identified through public scoping, as well as planning criteria and guidance relevant to GRSG abundance and distribution and the sagebrush ecosystem upon which populations depend throughout WAFWA Management Zones 2 and 4 (Stiver et al. 2006). Decisions in this LUPA would apply to 30.1 million acres of federal surface land and approximately 32 million acres of federal subsurface mineral estate in the planning area administered by the Idaho and Montana BLM and the Forest Service.

The five action alternatives (B, C, D, E and F) describe proposed changes to current LUPs as well as any existing management that would be carried forward. These alternatives provide a range of choices for resolving the planning issues identified in **Chapter 1**, Introduction.

The BLM and Forest Service recognizes that social, economic, and environmental issues cross landownership lines and that extensive cooperation is needed to actively address issues of mutual concern. To the extent possible, these alternatives were developed utilizing input from public scoping comments and cooperating agencies.

2.2.1 Management Common to All Alternatives (Alternatives A through F)

Although each alternative emphasizes a slightly different mix of resources and resource uses, all five action alternatives, and portions of Alternative A, would strive to achieve the following goals:

- Conserve, enhance, and restore the sagebrush ecosystem that GRSG populations depend on in order to maintain or increase their abundance and distribution, in cooperation with other conservation partners
- Protect GRSG habitats from disturbances that will reduce distribution or abundance of GRSG

The following activities would occur under all alternatives:

- Comply with state and federal laws, regulations, policies, and standards, including FLPMA multiple use mandates and NMFA regulations.
- Implement actions (day-to-day management, monitoring, and administrative functions) that stem directly from regulations, policy, and law, which are considered in conformance with the LUPA alternatives and are not specifically addressed in the alternatives.
- Preserve or recognize valid existing rights, which include any leases, claims, or other use authorizations established before a new or modified authorization, change in land designation, or new or modified regulation is approved. Activities on existing mineral leases are managed through terms, conditions and stipulations on the leases, and through specific operating conditions included in operating plan approvals.
- Collaborate with adjacent landowners, federal and state agencies, local governments, tribes, communities, other agencies, and other individuals and organizations, including GRSG LWGs, as needed, to monitor and implement decisions to achieve desired resource conditions.
- Sustain habitat in sufficient quantities and quality for viable plant and wildlife populations.
- Provide for human safety and property protection from wildfire.
- Ensure that existing utility corridors would remain unchanged.
- Limit all Forest Service-administered lands to designated routes.

In addition on-going BLM and Forest Service vegetation management actions would continue. Under all alternatives, including No Action, the BLM and Forest Service will continue to implement a vegetation management program that addresses all programs that rely on healthy plant species and communities to meet their objectives. The BLM and Forest Service's overarching direction for vegetation management is, through an interdisciplinary collaborative process, to plan and implement a set of actions that improve biological diversity and ecosystem function and promote and maintain native plant communities that are resilient to disturbance and invasive species (BLM Handbook 1909.12; FSM 2070.2).

To achieve this goal, the BLM and Forest Service understand and plan for the condition and use of BLM- and Forest Service-administered lands, focus on restoring sites that will most benefit from treatments, select the appropriate treatments to improve the likelihood of restoration success, monitor treatments to better understand what treatments are successful or unsuccessful, and convey information about treatment activities to BLM and Forest Service staff and the public.

BLM vegetation treatment policies are an outcome of the Vegetation Treatments Programmatic EIS released in October 2007 (BLM 2007). The programmatic EIS contains broad regional descriptions of resources, environmental impact analysis, and BLM-wide decisions on herbicide use and other available tools for vegetation management, and provides a programmatic USFWS ESA Section 7 consultation. The programmatic EIS is the context within which the Idaho and Montana BLM carry out vegetation management.

As part of any vegetation treatment or ground-disturbing activity, BLM and Forest Service policies require a survey of the project site for species listed or proposed for listing, or special status species. This is done by a qualified biologist or botanist who consults the state and local databases and visits the site at the appropriate season. If a proposed activity would affect a proposed or listed species or its critical habitat, the BLM and Forest Service consult with the USFWS. A project with a "may affect/likely to adversely affect" determination for a listed threatened or endangered species requires formal consultation and receives a Biological Opinion from the USFWS or National Marine Fisheries Service. For species that are formally proposed for listing, via a Proposed Rule in the Federal Register, federal agencies "conference" with USFWS or the National Marine Fisheries Service as appropriate. A project with a "may affect/not likely to adversely affect" determination requires informal consultation and receives a concurrence letter from the USFWS.

When developing mitigation and prevention plans for activities on BLM- and Forest Service-administered lands under all alternatives, the BLM and Forest Service will continue to address conditions that enhance invasive species abundance. These conditions include excessive disturbance associated with road maintenance, poor grazing management, and high levels of recreational use.

The BLM will also continue to participate in the National Early Warning and Rapid Response System for Invasive Species. The goal of this system is to minimize the establishment and spread of new invasive species through a coordinated framework of public and private processes.

The BLM and Forest Service will also continue to coordinate with resource advisory groups and non-governmental organizations, including BLM Resource Advisory Councils, the Western Governors' Association, the National Association of Counties, the Western Area Power Administration, the National Cattlemen's Association, the National Wool Growers Association, the Society of American Foresters, and the American Forest and Paper Association. The BLM will continue to solicit input from national and local conservation and environmental groups with an interest in land management activities on BLM- and Forest Service-administered lands.

All alternatives include direction contained in BLM IM 2013-128 – Sage-Grouse Conservation in Fire Operations and Fuels Management; Forest Service Washington Office letter 5100 dated July 3, 2013, Sage-Grouse Conservation Methods 2013, and a monitoring strategy.

Under all alternatives for fire management/fuels reduction, the BLM and Forest Service will continue to participate with the Wildland Fire Leadership Council, a cooperative, interagency organization dedicated to achieving consistent implementation of the goals, actions, and policies in the National Fire Plan and the Federal Wildland Fire Management Policy.

As directed by the Healthy Forests Restoration Act, the BLM and Forest Service will continue to develop an annual program of work that prioritizes authorized hazardous fuel reduction projects designed to protect at-risk communities or watersheds. In accordance with the Act, funding priority is given to communities that have adopted Community Wildfire Protection Plans or that have taken measures to encourage willing property owners to reduce fire risk on private property. All prescribed burning is coordinated with state and local air quality agencies to ensure that local air quality is not significantly impacted by BLM and Forest Service activities.

Also under all alternatives, the BLM and Forest Service will continue to consider and employ two types of monitoring of vegetation treatments: implementation monitoring and effectiveness monitoring. Implementation monitoring is usually done at the land use planning level or through annual work plan accomplishment reporting. Effectiveness monitoring is usually done at the local project implementation level. Monitoring of invasive plant treatment effectiveness can range from site visits to compare the targeted population size against pre-treatment inventory data, to comparing pre-treatment and post-treatment photo points, to more elaborate transect work, depending on the species and site-specific variables.

2.2.2 Alternative A – No Action Alternative

The No Action Alternative (Alternative A) represents the continuation of current management direction in the 21 BLM Field Office LUPs and 8 Forest Service LUPs, and proposes no new plan or management actions. Existing GRSG-related management direction is provided in BLM WO IM 2012-043, Greater Sage-Grouse Interim Management Policies and Procedures; Forest Service WO 2600 Memo, Interim Conservation Recommendations for Greater Sage-Grouse and Greater Sage-Grouse Habitat; BLM WO



IM 2013-128, Sage-Grouse Conservation in Fire Operations and Fuels Management; Forest Service WO letter 5100, Sage-Grouse Conservation Methods 2013; Idaho BLM IM 2013-036, Greater Sage-Grouse Habitat and Wildland Fire Objectives; and Idaho BLM Information Bulletin (IB) 2013-036, Interim Framework for Evaluating Proposed Activities Within Greater Sage-Grouse Preliminary Priority and Preliminary General Habitats on Bureau of Land Management (BLM) Land in Idaho). A no action alternative is required by CEQ regulations and provides a baseline for comparison of the other alternatives (CEQ 1981).

2.2.3 Brief Description of the Action Alternatives

Later in this chapter each of the analyzed alternatives is described in detail. Each alternative is composed of several integral parts: 1) a description of the GRSG habitat designations; 2) goals, objectives and management actions to be applied to those designations; and 3) required design features, stipulations or best management practices associated with various management actions. These parts are described within similar sections organized under each alternative. Components 2 and 3 are grouped relative to threat as described in the 2010 Finding, and described in a subsequent section under each alternative. Figures at the end of this chapter provide a graphic representation of the habitat designations as well as the differences between the alternatives. Proposed RDFs and BMPs are presented in **Appendix C**.

Management Common to All Action Alternatives (Alternatives B, through F)

The following would be common to all action alternatives:

- Allowable uses and management actions from the existing LUPs that remain valid and do not require amending are carried forward
- Existing requirements regarding site-specific environmental analysis, public involvement, consultation with tribes and other agencies, or compliance with applicable laws without waiver are maintained
- Appropriate, site-specific analysis as described in NEPA and any requisite site-specific decision making (i.e., 43 CFR Subpart 4160, or 36 CFR Part 251) would be conducted prior to approving proposed management actions
- Impacts analysis on other sagebrush steppe species and impacts on state endowment trust lands managed by the Idaho Department of Lands would be analyzed during site-specific project NEPA review
- Activities not specifically addressed by the alternative would still be subject to the allowances and restrictions of the applicable resource management plans
- Information in the Management Plan and Conservation Strategies for Sage-Grouse in Montana would be considered when designing projects that may affect sensitive species or federally listed species in Montana

- An oil and gas leasing decision would be made and would be consistent with the BLM and Forest Service requirements for a leasing decision as found in 43 CFR Part 3101 and 36 CFR 228.102, respectively.

Monitoring for the Greater Sage-Grouse Planning Strategy

The BLM's planning regulations, specifically 43 CFR 1610.4-9 require that land use plans establish intervals and standards for monitoring, based on the sensitivity of the resource decisions. Land use plan monitoring is the process of tracking the implementation of land use plan decisions (implementation monitoring) and collecting data/information necessary to evaluate the effectiveness of land use plan decisions (effectiveness monitoring). The Forest Service Planning Regulations at 36 CFR 219.6(b) require that plans describe a monitoring program for the planning area that establishes monitoring questions and associated performance measures. Monitoring questions must link to one or more desired condition, objective, or guideline.

In keeping with the WAFWA Sage-Grouse Comprehensive Conservation Strategy (Stivers et al. 2006) and the Greater Sage-Grouse Conservation Objectives: Final Report (USFWS 2013), BLM and Forest Service will monitor implementation and effectiveness of conservation measures in GRSG habitats.

On March 5, 2010 the 12-Month Findings for Petitions to List the Greater Sage-Grouse (*Centrocercus urophasianus*) as Threatened or Endangered were posted as a Federal Register notice (USFWS 2010a). This notice stated:

“...the information collected by BLM could not be used to make broad generalizations about the status of rangelands and management actions. There was a lack of consistency across the range in how questions were interpreted and answered for the data call, which limited our ability to use the results to understand habitat conditions for Sage-Grouse on BLM lands.”

The BLM, the Forest Service and other conservation partners would use the information produced by monitoring to guide implementation of conservation activities.

Monitoring strategies for GRSG habitat and populations must be collaborative, as habitat occurs across jurisdictional boundaries (52 percent BLM, 31 percent private, 8 percent Forest Service, 5 percent state, 4 percent tribal and other Federal; USFWS 2010a), and because state fish and wildlife agencies have primary responsibility for population level management of wildlife, including population monitoring on all lands (including federal). Therefore, population efforts will continue to be conducted in partnership with state fish and wildlife agencies. The BLM and Forest Service are in the process of finalizing a monitoring framework, which will be included in the Proposed LUP Amendment/FEIS; the major components of this monitoring framework can be found in Appendix E of this Draft EIS. The Monitoring Framework will describe the process that the BLM and Forest Service will use to monitor implementation and effectiveness of LUP decisions and will include: methods, data standards, and intervals of monitoring at broad and mid scales; consistent indicators to measure and metric descriptions for each of the scales (see Habitat Assessment



Framework [HAF] and Assessment, Inventory and Monitoring core indicators); analysis and reporting methods; and methods for incorporating results into adaptive management. The need for fine and site-scale specific habitat monitoring may vary by area depending on existing conditions, habitat variability, threats, and land health. Indicators at the fine and site scales will be consistent with the HAF; however the values for the indicators could be adjusted for regional conditions.

More specifically, the Monitoring Framework discusses how the BLM and Forest Service will monitor and track implementation and effectiveness of planning decisions (e.g., tracking of waivers, modifications, site level actions). The two agencies will monitor the effectiveness of LUP decisions in meeting management and conservation objectives. Effectiveness monitoring includes monitoring disturbance in habitats as well as landscape habitat attributes. To monitor habitats the BLM and Forest Service will measure and track attributes of occupied habitat, priority habitat, and general habitat at the broad scale, and attributes of habitat availability, patch size, connectivity, linkage areas, edge effect, and anthropogenic disturbances at the mid-scale. Disturbance monitoring will measure and track changes in the amount of sagebrush in the landscape and changes in the anthropogenic footprint including the change in the density of energy development. The Monitoring Framework Plan also includes methodology for analysis and reporting for Field Offices/States/Ranger Districts/BLM Districts/Forests/Forest Service Regions including geospatial and tabular data for disturbance mapping (e.g., geospatial footprint of new permitted disturbances) and effectiveness of management actions.

The monitoring data will provide the indicator estimates for adaptive management. The BLM and the Forest Service will adjust management decisions through an adaptive management process.

Adaptive Management

Adaptive Management is a decision process that promotes flexible resource management decision making that can be adjusted in the face of uncertainties as outcomes from management actions and other events become better understood. Careful monitoring of these outcomes both advances scientific understanding and helps with adjusting resource management directions as part of an iterative learning process. Adaptive management also recognizes the importance of natural variability in contributing to ecological resilience and productivity. It is not a 'trial and error' process, but rather emphasizes learning while doing. Adaptive management does not represent an end in itself, but rather a means to more effective decisions and enhanced benefits. On February 1, 2008, the Department of Interior (DOI) published its Adaptive Management Implementation Policy (522 Department Manual 1). The Forest Service has included adaptive management in its NEPA regulations (36 CFR 220.5[e][2]). The adaptive management strategy presented within this EIS complies with these policies.

In relation to the BLM and Forest Service's National Greater Sage-Grouse Planning Strategy, adaptive management would help ensure GRSG conservation measures presented in this EIS contain the needed level of certainty for effectiveness. If principles of adaptive management are incorporated into the conservation measure in the plan (to ameliorate

threats to a species), then there is a greater likelihood that a conservation measure or plan would be effective in reducing threats to that species. The following provides the BLM and Forest Service adaptive management strategy for the Idaho and Southwestern Montana sub-region.

Adaptive Management and Monitoring

This EIS contains a monitoring framework plan (**Appendix E**) which includes an effectiveness monitoring component. The agencies intend to use the data collected from the effectiveness monitoring to identify any changes in habitat conditions related to the goals and objectives of the plan and other range-wide conservation strategies (Stiver et al. 2006; USFWS 2013). When available from WAFWA and/or state wildlife agencies, information about population trends would be considered with effectiveness monitoring data (taking into consideration the lag effect response of populations to habitat changes [Garton et al. 2011]). The information collected through the Monitoring Framework Plan outlined in **Appendix E** would be used by the BLM and Forest Service to determine when adaptive management hard and soft triggers (discussed below) are met.

Adaptive Management Plan

Both Alternatives D and E contain some specific details with regard to the adaptive management process that are further explained within those alternative discussions (see **Sections 2.6.4** and **2.6.5**, respectively).

For Alternatives B, C, and F, the BLM and Forest Service would develop an adaptive management plan to provide certainty that unintended negative impacts on GRSG would be addressed before consequences become severe or irreversible and to provide regulatory certainty to the USFWS that appropriate action will be taken by the BLM and Forest Service. This adaptive management plan would:

- Identify science based soft and hard adaptive management triggers (see below) applicable to each population or subpopulation within the planning area,
- Address how the multiple scale data from the Monitoring Framework Plan (**Appendix E**) would be used to gauge when adaptive management triggers are met, and
- Charter an adaptive management working group to assist with responding to soft adaptive management triggers.

Adaptive Management Triggers. Adaptive management triggers are essential for identifying when potential management changes are needed in order to continue meeting GRSG conservation objectives. The BLM and Forest Service would use a continuum of trigger points (soft and hard triggers), which would enhance BLM's and Forest Service's ability to effectively manage GRSG habitat. The soft and hard triggers that would be delineated in the adaptive management plan would (at a minimum):

- Be based on the best available science



- Tied to the populations/demographics
- Take into account the importance of various seasonal habitat types
- Not be limited to a single time window

Soft triggers indicate when the BLM and Forest Service would consider adjustments to resource/resource use management. An adaptive management working group would help identify the causal factors as to what prompted the soft adaptive management trigger. The group would also provide recommendations to the appropriate BLM and Forest Service authorizing official (decision maker) regarding the applicable management response to address this trigger (e.g., effective mitigation, restoration, reclamation, and in some instances, a land use plan amendment or revision). When organizing the adaptive management working group, the BLM and Forest Service would invite participation from BLM, Forest Service, USFWS, local governments, and applicable state fish and game agencies.

Hard triggers indicate when the BLM and Forest Service would take immediate action to stop the continued deviation from conservation objectives. These actions could include one or more of the following (which may require subsequent NEPA:

- Temporary closures (as directed under BLM IM No. 2013-035)
- Immediate implementation of interim management policies and procedures through the BLM and Forest Service directives system
- Initiation of a new LUP Amendment to consider changes to the existing LUP decisions

Alternative B

BLM and Forest Service management actions, in concert with other state and federal agencies and private landowners, play a critical role in the future trends of GRSG populations. The BLM National Policy Team, as part of the National Greater Sage-Grouse Planning Strategy, established the NTT in August 2011. The NTT's mission was to develop and describe conservation measures to be considered while new or revised range-wide and long term regulatory mechanisms were developed through LUPAs to conserve, enhance, and restore the portions of GRSG habitat on BLM- and Forest Service-administered lands. The BLM and Forest Service used GRSG conservation measures in A Report on National Greater Sage-Grouse Conservation Measures (Sage-Grouse National Technical Team 2011, also referred as to the NTT Report) to form management direction under Alternative B.

Conservation measures under Alternative B are focused on preliminary priority management areas, (PPMAs, areas that have the highest conservation value to maintaining or increasing GRSG populations) and on Great Basin-wide concerns for GRSG. GRSG habitat preliminary general management areas, PGMAs, are also identified, encompassing seasonal or year-round habitat. Acreages of each management area are shown in **Table 2-2**. The BLM and Forest Service would apply a three percent surface disturbance cap on anthropogenic disturbances (not including fire) in PPMAs.

Alternative C

During scoping for this LUPA/EIS, individuals and conservation groups submitted management direction recommendations for protecting and conserving GRSG and habitat range-wide. The recommendations, in conjunction with resource allocation opportunities and internal sub-regional BLM and Forest Service input, were reviewed in order to develop BLM and Forest Service management direction for GRSG under Alternative C. Management actions in Alternative C are applied to all occupied habitat (PPMA) and focus on the removal of livestock grazing from the landscape to alleviate threats to GRSG. The acreage of PPMA is shown in **Table 2-2**. Similar to Alternative B, the BLM and Forest Service would apply a three percent surface disturbance cap on anthropogenic disturbances (not including fire) in PPMAs.

Alternative D

This is the Idaho and Southwestern Montana Sub-region alternative. It describes conservation measures to conserve, enhance, and restore GRSG habitat on BLM- and Forest Service-administered lands, while balancing resources and resource use among competing human interests, land uses, and the conservation of natural and cultural resource values, and sustaining and enhancing ecological integrity across the landscape, including plant, wildlife, and fish habitat. This alternative incorporates the NTT strategy and includes local adjustments to A Report on National Greater Sage-Grouse Conservation Measures (NTT 2011) and habitat boundaries to provide a balanced level of protection, restoration, enhancement, and use of resources and services to meet ongoing programs and land uses.

Conservation measures under Alternative D apply to three GRSG management areas – preliminary priority management area, PGMA, and preliminary medial management area (PMMA). PPMAs contain the most important and relatively intact habitats and potential restoration areas for conserving GRSG, PPMAs have some level of development or disturbance that reduces the effective character for GRSG but still provides better quality habitat than PGMAs. PGMAs represent the remaining occupied or potentially occupied habitat outside of PPMAs and PMMAs. Acreages of each management area are shown in **Table 2-2**. Under Alternative D, the BLM and Forest Service would require no net unmitigated loss of PPMAs instead of a disturbance cap. Mitigation of habitat loss is described in some detail in **Section 2.6.4**, Detailed Description of Alternative D.

Alternative E

The Idaho Governor's Alternative (Governor's Alternative), which provides the basis for Alternative E in this EIS, was developed from recommendations by the State of Idaho's GRSG Task Force and provides recommendations and policies to aid the State of Idaho in developing a conservation plan specifically adapted to Idaho GRSG populations with the objective of precluding the need to list the species under the ESA (Idaho Governor's Sage-grouse Task Force 2012). Conservation measures under Alternative E for lands in Idaho would apply to three GRSG management areas: core habitat zone (CHZ), important habitat zone (IHZ), and general habitat zone (GHZ). Acreages of each habitat zone are shown in **Table 2-2**. The three proposed habitat zones represent a management continuum that includes at one end, a relatively restrictive approach aimed at providing a high level of



protection to the most important CHZ. On the other end is a relatively flexible approach for GHZ, allowing for more multiple-use activities. Management under the IHZ contemplates greater flexibility than in the CHZ, but the overall quality and ecological importance of most of the habitat within this theme is more closely aligned with the habitat in the CHZ than in the GHZ. Alternative E includes a three percent disturbance cap on fluid mineral development in CHZ in Idaho and a five percent disturbance cap for IHZ. Since the sub-regional planning boundary extends into southwestern Montana and the Sawtooth National Forest portion of Utah, management for these areas in this alternative reflect the approaches described through coordination with Montana Fish Wildlife and Parks (as part of previous planning) and the State of Utah. Lands in Montana would be managed under Alternative A. For the portion of the sub-region within Utah, PPMA and PGMA would be delineated, with the same definitions as under Alternative B.

Alternative F

Similar to Alternative C, Alternative F was derived from individual and conservation group scoping comments. This alternative contains a mixture of management actions from *A Report on National Greater Sage-Grouse Conservation Measures* as well as additional restrictions on resource uses and increased resource protection. As such, Alternative F provides greater restrictions on allowable uses and less resource management flexibility than Alternative B. Conservation measures in Alternative F are focused on PPMAs, PGMAs, and PRMAs. Acreages of each management area are shown in **Table 2-2**. The BLM and Forest Service would apply a three percent disturbance cap on surface disturbances (including fire) in PPMAs.

2.3 Additional Alternatives Considered

2.3.1 Eliminated From Detailed Analysis

The following alternatives were considered but were not carried forward for detailed analysis because (1) they would not fulfill the requirements of FLPMA or NFMA or other existing laws or regulations, (2) they did not meet the purpose and need for the LUPA (**Section 1.2, Purpose and Need**), (3) they were already part of an existing plan, policy, or administrative function, or (4) they did not fall within the limits of the planning criteria; or they were outside of the technical, legal, or policy constraints of developing a LUPA for BLM- and Forest Service-administered land resources and resource uses. FLPMA requires the BLM and Forest Service to manage the BLM- and Forest Service-administered lands and resources in accordance with the principles of multiple use and sustained yield. This includes recognizing the nation's needs for domestic sources of minerals, food, timber, and fiber. Moreover, the BLM and Forest Service are required by law to recognize existing valid rights on BLM- and Forest Service-administered lands and to manage those lands in accordance with existing laws. These include the General Mining Act of 1872 and the Mineral Leasing Act of 1920, as amended.

USFWS-Listing Alternative

Comments provided through scoping requested analysis of an alternative based on the assumption that GRSG become listed under the ESA. This is outside the scope; the purpose and need of this plan amendment is to address inadequacy of regulatory mechanisms that

were identified as one of the listing factors for GRSG in the USFWS finding on the petition to list GRSG. The USFWS identified the principal regulatory mechanism for the BLM and Forest Service as conservation measures in LUPs. In response to the USFWS findings, as well as the BLM and Forest Service's requirement to manage sensitive species, the BLM and Forest Service are preparing plan amendments with associated EISs to evaluate the incorporation of conservation measures in LUPs for GRSG. Because the purpose of the LUP amendments is to identify and potentially incorporate appropriate conservation measures in LUPs to conserve, enhance and/or restore GRSG habitat by reducing, eliminating, or minimizing threats to that habitat, the alternatives in this EIS, therefore, focus on those conservation measures that can be incorporated into the LUPs. Although the potential listing of GRSG would also include conservation measures identified by the USFWS, those conservation measures are not known at this time. Therefore, an alternative that includes USFWS-listing with associated conservation measures for GRSG is not being analyzed in detail.

Elimination of Recreational Hunting

Neither the BLM nor the Forest Service regulate hunting activities on federal lands; this responsibility resides with IDFG, MFWP, and Utah Division of Wildlife Resources. IDFG, MFWP, and the Utah Division of Wildlife Resources manage wildlife within Idaho, Montana, and Utah, respectively, while the BLM and Forest Service manage wildlife habitat. Recreational hunting of GRSG, including hunting seasons, is directed by the relevant state conservation plans for GRSG and criteria therein.

Predation

Commenters stated that predator control was needed to protect GRSG from predation. IDFG and MFWP possess primary responsibility for managing the wildlife within Idaho and Montana, respectively, while the BLM and Forest Service are responsible for managing habitat. Consistent with an MOU between the BLM and the USDA, APHIS-Wildlife Services, the BLM and Forest Service would continue to work with IDFG and MFWP to meet state wildlife population objectives. Predator control is allowed on BLM-administered lands and is regulated by IDFG and MFWP. Avian predators such as ravens and birds of prey are protected under the Migratory Bird Treaty Act; eagles are protected under the Bald and Golden Eagle Act. Control of these avian predators is under the jurisdiction of the USFWS. Therefore, these comments relate to state- and federal-regulated actions that are outside of BLM or Forest Service authority and are outside the scope of the LUPA/EIS. The BLM and Forest Service will continue to work with agencies to address current predation of GRSG. The BLM and Forest Service-administered lands in the planning area will remain open to predator control under state laws.

Close All or Portions of Preliminary Priority or Preliminary General Management Areas to Off-Highway Vehicle Use

Through this LUPA/EIS, the BLM has identified, but has not studied in detail, an alternative to designate new area closures for OHV use within PPMA and PGMA. The BLM has analyzed alternatives to designate all areas within PPMAs and PGMA as "limited" to existing roads and trails for OHV use, if not already closed by existing planning efforts.



Subsequent Travel Management Plans will be developed to identify specific routes within limited areas that will be closed in order to protect and conserve GRSG and its habitat. The BLM and Forest Service have analyzed existing OHV area closures within PPMAs and PGMA as part of the No Action alternative and as a decision common to all alternatives. The following provides the BLM and Forest Service's rationale:

- 1) There are areas within PPMAs and PGMA that are currently closed to OHV use (e.g., Wilderness Areas). While these areas were closed to OHV use for purposes other than GRSG conservation, the BLM and Forest Service will analyze the impacts that these closures have on protection of GRSG and GRSG habitat. These closures are analyzed in the No Action alternative and will be carried forward across all alternatives in this EIS/Amendment.
- 2) This GRSG Amendment is considering eliminating cross-country travel by analyzing limiting travel to existing roads and trails, as no new areas will be designated as open to OHV use. In at least one alternative, all existing areas that are designated as open will become limited to existing roads and trails.
- 3) Route inventories in PPH and PGH are currently underway based on coordinated efforts between the BLM, Forest Service, and USFWS staff. Once the inventories are complete, the BLM and Forest Service will initiate travel and transportation planning, which will undergo a NEPA analysis and will include public involvement. Through subsequent Travel and Transportation planning, the BLM will identify and consider closing specific existing routes that may be affecting GRSG habitat. Any decision to close routes to OHV use in the Travel and Transportation plans would be based on consideration of the habitat objectives and the overall goal of conserving, enhancing, or restoring sagebrush ecosystems upon which GRSG populations depend.

In addition, during the District or Field Office plan revision/amendment process, travel and transportation area decisions (open, limited or closed) would be revisited at the local level based on existing inventory information associated with a myriad of resources and resource uses.

- 4) During the public scoping period for this LUPA, there were no specific areas identified for closure to carry forward for detailed analysis.

For the reasons identified above, this subject was not carried forward for detailed analysis in this LUPA.

2.3.2 Incorporated in Whole or In Part

Consideration of Coal Mining

According to 43 CFR 3420.1-4(e), the BLM can only lease coal in areas identified as having development potential. While there are several historic coal developments, including Teton Basin and Goose Creek, to date, no areas have been identified with economic reserves to support future leasing analysis. Under all alternatives, the BLM would consider proposals for coal and oil shale leasing on a case-by-case basis for minerals resources under the administration of the federal government. Site-specific environmental analysis and a plan

amendment would be required to lease for coal or oil shale. There are currently no regulations governing the leasing of oil shale. Any leases would be issued under the authority of 30 USC 241, which authorizes the Secretary of the Interior to lease deposits of oil shale. For these reasons, coal leasing and oil shale development are not addressed in this planning effort.

Custer County and Owyhee County Sage-Grouse Plans

Both Custer and Owyhee Counties prepared and submitted county approved GRSG Management Plans to the BLM and Forest Service for consideration and inclusion in the Sub-Regional EIS Amendment effort. These plans were based largely on the existing LWG GRSG Plans (Custer County 2006, Owyhee County 2013), which were considered during the initial development of the range of alternatives considered in detail. They are limited in scope to the specific county areas they address and do not represent a complete management scenario for all of the BLM- and Forest Service-administered areas within the sub-region. The plans, their objectives, GRSG habitat mapping and management actions were each evaluated to determine whether the components included in those plans augmented or provided direction outside of the range of detailed alternatives. The results of this analysis showed the Custer County plan objectives and management actions to be consistent with Alternative A. The Custer County mapping is similar to the mapping of Alternative C, with only one habitat category. The extent of identified habitat, based on the LWG Key Habitat map, is most similar to Alternative E and, while within the range of alternatives, it is not exactly reflected within any of the alternatives. The Owyhee County Plan is consistent with Alternative A for mapping, objectives and most management actions. Several management actions identified in the Owyhee County plan are included as parts of Alternatives B, C, D, E and F. Since the direction in these plans is already included within the existing range of alternatives these county plans were not included as additional unique alternatives for detailed analysis. **Appendix A** contains an evaluation of each of these plans and the management actions within those plans in relation to the existing Custer and Owyhee land use plans and the alternatives analyzed in detail.

Greater Yellowstone Coalition ACECs and Audubon Suggested Management Actions

During the scoping period the Greater Yellowstone Coalition and Audubon Society provided management actions that were considered for analysis. The Greater Yellowstone Coalition proposed several new areas of critical environmental concern that overlap other, broader ACEC proposals that are included for analysis within Alternative F. The Audubon Society also provided management actions that were similar or effectively the same as proposals and management actions included in Alternative B, C or F. These submissions are contained within the existing range of alternatives and will be considered in detail.

Broad-scale Increased Grazing

During scoping and the alternatives development process, a number of individuals and cooperating agencies requested that the BLM and Forest Service consider an alternative that would increase the amount of livestock grazing across all GRSG habitat. This recommendation was based on the supposition that there is a correlation between declines in



GRSG and declines in the amount of livestock grazing on public BLM- and Forest Service-administered lands. While this alternative was considered but eliminated from detailed analysis for the following reasons, site specific, targeted grazing opportunities are included as parts of Alternatives D and E:

- Alternatives being considered in this LUPA/EIS are science-based conservation measures that would meet the purpose and need for the project, which is to identify and incorporate appropriate conservation measures in LUPs to conserve, enhance, and restore GRSG habitat by reducing, eliminating, or minimizing threats to that habitat. There are currently no science-based studies that demonstrate that increased livestock grazing on public lands would enhance or restore GRSG habitat or maintain or increase GRSG abundance and distribution.
- Actual livestock use within GRSG habitat on BLM-administered lands in the Idaho and Southwestern Montana Sub-region is generally less than permitted use. Actual livestock use in many areas is below permitted use due to restrictions placed on permittees and annual fluctuations in permittee operations. Although no alternative specifically considers an increase in livestock grazing, under all alternatives except Alternative C, the BLM and Forest Service would retain flexibility to consider increases in livestock grazing on a case-by-case basis. Increases would be dependent on permittee interest and rangeland conditions. Increases in livestock grazing may be facilitated in GRSG habitat if there are changes in management, such as changes to existing grazing management systems, that optimize range conditions.

2.4 Summary Comparison of Alternatives

This section summarizes and compares the six alternatives (A through F) considered in the EIS. To reduce the length and avoid confusion, only select meaningful differences (those with the most potential to affect resources) among alternatives are summarized in this section. Combined with the appendices and maps, **Table 2-2, Comparative Summary of Alternatives by Acres Allotted¹**, and **Table 2-3, Description of Alternatives**, highlight the meaningful differences among the alternatives relative to what they establish and where they occur. All decisions in **Table 2-3** are LUP-level decisions. **Table 2-3** is intended to be a summary table. For a detailed presentation of management actions by alternative, see Table 2-18.

Table 2-2
Comparative Summary of Alternatives by Acres Allotted¹ (Within GRSG Habitat)

Resource or Resource Use	Total Planning Area ⁶	Alternative A ⁷	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<i>Resources</i>							
GRSG Habitat Areas (acres)		<i>Figure 2-1</i>	<i>Figure 2-2</i>	<i>Figure 2-3</i>	<i>Figure 2-4</i>	<i>Figure 2-5</i>	<i>Figure 2-6</i>
Planning Area Acres	30,254,200						
BLM	12,730,000						
Forest Service	17,524,200						
Total GRSG Management Areas/Habitat Zones:		11,355,400	11,119,900	11,119,900	11,101,300	10,206,000	11,621,600
BLM		9,260,100	9,260,100	9,260,100	9,244,000	9,297,300	9,760,400
Forest Service		2,095,300	1,859,800	1,859,800	1,857,300	1,859,100	1,861,200
Core Habitat Zone²		---	--	--	--	4,824,900	--
BLM		---	--	--	--	4,362,200	--
Forest Service		--	--	--	--	462,700	--
Preliminary Priority Management Area		8,260,900	8,229,500	11,119,900	6,819,100	71,800	8,229,900
BLM		7,266,500	7,266,500	9,260,100	6,117,300	--	7,266,500
Forest Service		994,400	963,000	1,859,800	701,800	71,800	963,400
Preliminary General Management Area³		3,094,600	2,890,400	--	2,934,100	3,516,300	2,891,500
BLM		1,993,600	1,993,600	--	2,036,800	2,565,900	1,993,700
Forest Service		1,101,000	896,800	--	897,300	950,400	897,800
Preliminary Medial Management Area		--	--	--	1,348,100	--	--
BLM		--	--	--	1,089,900	--	--
Forest Service		--	--	--	258,200	--	--
Important Habitat Zone		--	--	--	--	2,743,400	--
BLM		--	--	--	--	2,369,200	--
Forest Service		--	--	--	--	374,200	--
General Habitat Zone		--	--	--	--	3,516,300	--
BLM		--	--	--	--	2,565,900	--
Forest Service		--	--	--	--	950,400	--

Table 2-2
Comparative Summary of Alternatives by Acres Allotted¹ (Within GRSG Habitat)

Resource or Resource Use	Total Planning Area⁶	Alternative A⁷	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Preliminary Restoration Management Area⁴		--	--	--	--	--	500,200
BLM		--	--	--	--	--	500,200
Forest Service		--	--	--	--	--	0
Resource Uses							
Livestock Grazing		<i>Figure 2-7</i>	<i>Figure 2-8</i>	<i>Figure 2-9</i>	<i>Figure 2-10</i>	<i>Figure 2-11</i>	<i>Figure 2-12</i>
Acres open to all classes of livestock grazing (Total)	31,058,300	11,226,500	10,969,800	0	11,180,900	10,940,600	11,451,640
Acres open to all classes of livestock grazing (BLM)	21,952,945	9,310,600	9,220,100	0	9,267,500	9,257,300	9,200,300
Acres open to all classes of livestock grazing (Forest Service)	9,105,400	1,915,900	1,749,700	0	1,913,400	1,683,300	1,751,000
Acres open to all classes of livestock grazing in Restoration Habitat (BLM)		--	--	--	--	--	500,200
Acres open to all classes of livestock grazing in Restoration Habitat (Forest Service)		--	--	--	--	--	140
Acres closed to all classes of livestock grazing (Total)		65,200	61,800	11,009,900	65,200	61,800	61,800
Acres closed to all classes of livestock grazing (BLM)		41,000	41,000	9,260,100	41,000	41,000	41,000
Acres closed to all classes of livestock grazing (Forest Service)		24,200	20,800	1,749,800	24,200	20,800	20,800
Acres closed to all classes of livestock grazing in Restoration Habitat (BLM)		--	--	--	--	--	0
Acres closed to all classes of livestock grazing in Restoration Habitat (Forest Service)		--	--	--	--	--	0
Travel and Transportation		<i>Figure 2-13</i>	<i>Figure 2-14</i>	<i>Figure 2-15</i>	<i>Figure 2-16</i>	<i>Figure 2-17</i>	<i>Figure 2-18</i>
Acres open to cross-county motorized travel (Total)		2,097,100	702,800	0	7,200	2,063,000	190,700
Open to cross-country motorized travel (BLM)		2,097,100	702,800	--	7,200 ⁵	2,063,000	--

Table 2-2
Comparative Summary of Alternatives by Acres Allotted¹ (Within GRSG Habitat)

Resource or Resource Use	Total Planning Area ⁶	Alternative A ⁷	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Open to cross-country motorized travel in Restoration Habitat (BLM)		--	--	--	--	--	190,700
Acres closed to motorized travel (Total)		905,700	900,500	900,500	1,033,700	902,400	914,100
Closed to motorized travel (BLM)		905,700	900,500	900,500	1,033,700 ⁵	902,400	900,600
Closed to motorized travel in Restoration Habitat (BLM)		--	--	--	--	--	13,500
Acres limited to existing or designated routes (Total)		6,926,400	9,317,000	10,216,300	13,104,800	6,628,500	10,449,700
Limited to existing roads and trails (BLM)		4,831,100	7,457,200	8,356,500	11,247,100 ⁵	4,841,200	8,356,600
Limited to existing roads and trails in Restoration Habitat (BLM)		--	--	--	--	--	231,900
Limited to designated routes (Forest Service)		2,095,300	1,859,800	1,859,800	1,857,700	1,787,300	1,861,200
Total Acres		9,929,200	10,920,300	11,116,800	14,145,700	9,593,900	11,554,500
Lands and Realty (acres)		<i>Figure 2-19</i>	<i>Figure 2-20</i>	<i>Figure 2-21</i>	<i>Figure 2-22</i>	<i>Figure 2-23</i>	<i>Figure 2-24</i>
Right-of-way (ROW) exclusion areas (Total)		1,010,900	8,263,200	11,165,500	0	310,000	8,263,200
Right-of-way (ROW) exclusion areas (BLM)		800,000	--	9,260,100	0	208,200	7,266,500
Right-of-way (ROW) exclusion areas (Forest Service)		210,900	--	1,905,400	0	101,800	996,700
Right-of-way (ROW) exclusion areas in Restoration Habitat (BLM)		--	--	--	--	--	39,400
Right-of-way (ROW) exclusion areas in Restoration Habitat (Forest Service)		--	--	--	--	--	0
ROW exclusion with limited exceptions (BLM)		--	7,266,500	--	--	--	--
ROW exclusion with limited exceptions (Forest Service)		--	996,700	--	--	--	--
Right-of-way (ROW) avoidance areas (Total)		1,903,400	2,903,700	0	11,407,900	8,479,600	2,920,900
ROW avoidance areas (BLM)		806,400	1,993,700	0	3,172,300	6,989,400	1,993,700
ROW avoidance areas (Forest Service)		1,097,000	910,000	0	2,100,400	1,490,200	910,000

Table 2-2
Comparative Summary of Alternatives by Acres Allotted¹ (Within GRSG Habitat)

Resource or Resource Use	Total Planning Area ⁶	Alternative A ⁷	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
ROW avoidance areas in Restoration Habitat (BLM)		--	--	--	--	--	17,100
ROW avoidance areas in Restoration Habitat (Forest Service)		--	--	--	--	--	100
ROW avoidance with limited exclusion (BLM)		--	--	--	6,135,200	--	--
Utility Corridors (Total)							
Utility corridors (BLM)		84,200	82,400	82,400	84,200	82,400	82,400
Utility corridors (Forest Service)		2,060	2,060	2,060	2,060	2,060	2,060
Utility corridors in Restoration Habitat (BLM)		--	--	--	--	--	6,450
Utility corridors in Restoration Habitat (Forest Service)		--	--	--	--	--	0
Fluid Mineral Leasing (acres)¹		<i>Figure 2-25</i>	<i>Figure 2-26</i>	<i>Figure 2-27</i>	<i>Figure 2-28</i>	<i>Figure 2-29</i>	<i>Figure 2-30</i>
Closed to fluid mineral leasing (Total)		1,319,300	9,830,600	12,921,100	9,578,700	2,118,900	9,864,300
BLM		1,254,000	9,793,400	12,883,900	9,521,800	2,081,700	9,794,500
Forest Service		65,300	37,200	37,200	56,900	37,200	37,200
Closed in Restoration Habitat (BLM)		--	--	--	--	--	32,600
Closed in Restoration Habitat (Forest Service)		--	--	--	--	--	0
Open to fluid mineral leasing (Total)		10,000,000	2,809,300	364,100	362,770	9,023,200	3,313,700
BLM		8,000,000	2,445,200	0	270	8,654,500	2,445,200
Forest Service		2,000,000	364,100	364,100	362,500	368,700	364,100
Open in Restoration Habitat (BLM)		--	--	--	--	--	504,400
Open in Restoration Habitat (Forest Service)		--	--	--	--	--	0
Open to leasing subject to No Surface Occupancy (NSO)		1,394,000	685,700	360,400	949,400	1,458,500	691,540
BLM		911,000	325,300	0	474,400	1,098,600	325,600
Forest Service		483,000	360,400	360,400	475,000	359,900	360,400
NSO in Restoration Habitat (BLM)		--	--	--	--	--	5,540
NSO in Restoration Habitat (Forest Service)		--	--	--	--	--	0

Table 2-2
Comparative Summary of Alternatives by Acres Allotted¹ (Within GRSG Habitat)

Resource or Resource Use	Total Planning Area ⁶	Alternative A ⁷	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<i>Open to leasing subject to Controlled Surface Use (CSU)</i>		747,200	763,880	762,300	969,600	765,440	764,020
BLM		1,700	1,580	0	207,400	1,940	1,580
Forest Service		745,500	762,300	762,300	762,200	763,500	762,300
CSU in Restoration Habitat (BLM)		--	--	--	--	--	0
CSU in Restoration Habitat (Forest Service)		--	--	--	--	--	140
<i>Open to leasing subject to Timing Limitations (TL)</i>		786,300	318,400	0	2,953,400	1,096,500	318,400
BLM		781,000	318,400	0	2,953,400	1,096,500	318,400
Forest Service		5,300	0	0	0	0	0
TL in Restoration Habitat (BLM)		--	--	--	--	--	0
TL in Restoration Habitat (Forest Service)		--	--	--	--	--	0
Locatable Minerals, Mineral Materials, and Non-Energy Solid Leasable Minerals (acres)		<i>Figure 2-31</i>	<i>Figure 2-32</i>	<i>Figure 2-33</i>	<i>Figure 2-34</i>	<i>Figure 2-35</i>	<i>Figure 2-36</i>
Locatable minerals - withdrawn or recommended for withdrawal		621,300	8,295,000	10,939,800	621,300	620,100	8,349,200
BLM		558,800	7,380,200	9,172,400	558,800	563,300	7,380,200
Forest Service		62,500	914,800	1,767,400	62,500	56,800	914,800
BLM Restoration		--	--	--	--	--	54,200
Forest Service Restoration		--	--	--	--	--	0
Closed to mineral materials disposal		707,200	8,251,300	10,939,800	3,046,400	710,700	8,265,300
BLM		707,200	7,368,600	9,172,400	2,876,500	710,700	7,368,600
Forest Service		0	882,700	1,767,400	169,900	0	882,700
Closed in Restoration Habitat (BLM)		--	--	--	--	--	14,000
Closed in Restoration Habitat (Forest Service)		--	--	--	--	--	0
Closed to non-energy mineral leasing		1,119,800	8,304,600	10,939,800	8,308,600	1,119,800	8,334,300
BLM		1,074,800	7,417,900	9,172,400	7,423,000	1,074,800	7,417,900
Forest Service		45,000	886,700	1,767,400	885,600	45,000	886,700
Closed in Restoration Habitat (BLM)		--	--	--	--	--	29,700

Table 2-2
Comparative Summary of Alternatives by Acres Allotted¹ (Within GRSG Habitat)

Resource or Resource Use	Total Planning Area ⁶	Alternative A ⁷	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Closed in Restoration Habitat (Forest Service)		--	--	--	--	--	0
<i>Special Designations</i>							
Areas of Critical Environmental Concern (acres, BLM only)		<i>Figure 2-37</i>		<i>Figure 2-38</i>			<i>Figure 2-39</i>
ACEC		426,700	463,700	3,603,100	463,500	464,400	7,380,200
ACECs in Restoration Habitat (BLM)		--	--	--	--	--	3,460
Zoological Areas (acres, Forest Service only)							<i>Figure 2-40</i>
Zoological Areas		0	0	0	0	0	408,033
Wilderness Study Areas							
Wilderness Study Areas		519,800	510,100	780,500	519,600	512,900	524,200
BLM		519,300	510,000	773,400	519,100	512,800	510,000
Forest Service		500	70	7,100	500	70	70
BLM Restoration		--	--	--	--	--	14,100
Forest Service Restoration		--	--	--	--	--	0

Source: BLM 2013a; Forest Service 2013a

¹Table presents acres of allocations within GRSG habitat. Acres outside occupied GRSG habitat are noted where applicable.

²Core Habitat under Alternative A is managed on BLM-administered lands in Montana only

³General Habitat under Alternative A is managed on BLM-administered lands in Montana only

⁴All acres in Restoration Habitat under Alternative F are outside occupied GRSG habitat and are presented separately in this table.

⁵Travel management decisions under Alternative D in Idaho would apply to BLM-administered lands within the entire state of Idaho regardless of GRSG habitat; travel management decisions under Alternative D in southwestern Montana would apply to only GRSG habitat in the Dillon Field Office.

⁶The planning area includes acres within both GRSG habitat and nonhabitat.

⁷Acres under Alternative A represent an overlay with PPH/PGH as well as the inclusion of several Forest Service GRSG management areas that are outside of PPH/PGH.

Note: Figures referenced in this table are presented in Volume I of this DEIS.

2.4.1 Description of Alternatives

Table 2-3, Description of Alternatives, summarizes the alternatives considered in this LUPA/EIS.

Table 2-3 Description of Alternatives						
Greater Sage-Grouse Planning Proposed Alternatives Summary Table						
Range of alternatives considered with a brief summary of what they address.						
	Alternative A No Action	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Source, Origination and Scope	<p>Idaho BLM/Idaho Montana Forest Service: Compilation of all existing plans in occupied habitat for both BLM and Forest Service.</p> <p>Montana BLM only: Dillon ROD/RMP</p> <p>Appendix X of Dillon ROD/RMP – GRSG Management¹</p>	<p>NTT Report Scope: BLM and Forest Service occupied habitat in Idaho, Southwestern Montana and the Utah portion of the Sawtooth National Forest.</p>	<p>Environmental Citizen Group based alternative + NTT Report 'Plus' Scope: Same as Alternative B.</p>	<p>Sub-Regional Interdisciplinary Team developed alternative Scope: Same as Alternative B.</p>	<p>State Governor's Alternative for Idaho and Utah. Montana direction same as Alternative A. Scope: Same as Alternative. B.</p>	<p>Environmental Citizen Groups based alternative + NTT Report 'Plus' Scope: Same as Alternative. B.</p>
Habitat Categorization	<p>Idaho BLM/Idaho Montana Forest Service: No delineation of occupied GRSG habitat.</p>	<p>Occupied GRSG habitat is categorized into Preliminary Priority and Preliminary General Management Areas (PPMA and PGMA).</p>	<p>All occupied habitat is categorized into PPMAs.</p>	<p>Occupied habitat is categorized into PPMA, PMMA and PGMA. Montana contains only PPMAs and PGMA; and Utah contains only PPMAs.</p>	<p><i>Idaho:</i> Occupied habitat is categorized Core Habitat Zones, Important Habitat Zones and General Habitat Zones. <i>Montana:</i> Same as Alternative A. <i>Utah:</i> Sawtooth NF portion of Utah is</p>	<p>Occupied habitat is categorized into PPMAs and PGMA. Additional unoccupied areas are identified as Preliminary Restoration Management Areas (PRMAs).</p>

Table 2-3
Description of Alternatives

Greater Sage-Grouse Planning Proposed Alternatives Summary Table

Range of alternatives considered with a brief summary of what they address.

	Alternative A No Action	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
	Montana BLM only: Occupied GRSG habitat delineated and identified as priority habitat for management, but PPH or PGH not delineated. FWP Core habitat map (now PPH) was delineated in 2009 with BLM input and is used for Watershed environmental assessments	Montana BLM only: Total in Dillon Field Office PPMA = 1,369,300 Dillon Field Office/BLM PPMA = 456,800 Total in Dillon Field Office PGMA = 1,245,200 Dillon Field Office/BLM PGMA = 221,600			occupied habitat within a GRSG management area.	
Disturbance Cap	No disturbance cap is managed across the sub-region.	The BLM and Forest Service would apply a three percent surface disturbance cap on anthropogenic disturbances (not including fire) in PPMA.	Same as Alternative B.	The BLM and Forest Service would require no net unmitigated loss of PPMA.	The BLM and Forest Service would apply a three percent surface disturbance cap on fluid mineral development in CHZ in Idaho and a five percent disturbance cap in IHZ. No disturbance cap would be applied in the Montana or Utah portions of the sub-region.	The BLM and Forest Service would apply a three percent disturbance cap on surface disturbances (including fire) in PPMA.

Table 2-3
Description of Alternatives

Greater Sage-Grouse Planning Proposed Alternatives Summary Table

Range of alternatives considered with a brief summary of what they address.

	Alternative A No Action	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Fire Management – Suppression²	<p>Idaho BLM/Idaho Montana Forest Service:</p> <p>Firefighter and public safety are the highest priority. GRSG habitat will be prioritized commensurate with property values and other critical habitat to be protected, with the goal to restore, enhance, and maintain areas suitable for GRSG.</p> <p>Montana BLM only: Emphasis on firefighter and public safety. Decisions based on relative values to be protected commensurate with fire management costs.</p>	<p>In PPMA, prioritize suppression, immediately after life and property, to conserve the habitat.</p> <p>In PGMA, prioritize suppression where wildfires threaten PPMA.</p>	Same as Alternative B.	<p>Prioritize firefighter and public safety, followed by suppression of fires in PPMA, with consideration given to threatened and endangered species habitat.</p> <p>Implement as “required design features”, the measures identified in Appendix K.</p> <p>Implement RDFs</p> <p>PPMA is the highest priority for suppression.</p>	<p>In Idaho, prioritize suppression in GRSG habitats immediately after human safety and structure protection. In Utah, address fire by natural ignition as a serious threat.</p> <p>In CHZ and IHZ, develop a wildfire suppression plan that improves on the fire suppression baseline.</p>	Same as Alternative B

Table 2-3
Description of Alternatives

Greater Sage-Grouse Planning Proposed Alternatives Summary Table

Range of alternatives considered with a brief summary of what they address.

	Alternative A No Action	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
	Approximately 777,000 acres managed with considerations to wildlife habitat, air quality and Threatened and endangered species.					
Fire Management - Fuels	<p>Idaho BLM/Idaho Montana Forest Service: Design projects to minimize the size of wildfire and prevent the further loss of sagebrush.</p> <p>Montana BLM only: Restore and maintain desired ecological conditions and fuel loadings. Evaluate benefits against loss of sagebrush in NEPA process. Do not burn Wyoming</p>	<p>In PPMA, implement fuel treatments with an emphasis on protecting existing sagebrush ecosystems, including targeted grazing. Do not reduce sagebrush canopy cover to less than 15 percent.</p> <p>Develop a fuels management strategy.</p>	Same as Alternative B.	<p>Design and implement fuels treatments with an emphasis on maintaining, protecting, and expanding sagebrush ecosystems. Strategically place treatments on a landscape scale to prevent fire from spreading into PPMA or WUI.</p> <p>Revegetate green strips with native fire resistant/resilient species.</p> <p>Develop a fuels management strategy.</p>	Implement specific, more aggressive wildlife and invasive species management practices to prevent further encroachment into the CHZ and IHZ. In Utah, create and implement a statewide fire agency agreement(s) that will eliminate jurisdictional boundaries and allow for immediate response to natural fire in PPMA.	Same as Alternative B.

Table 2-3
Description of Alternatives

Greater Sage-Grouse Planning Proposed Alternatives Summary Table

Range of alternatives considered with a brief summary of what they address.

	Alternative A No Action	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
	sagebrush.					
Invasive Species	<p>Idaho BLM/Idaho Montana Forest Service: Implement noxious weed and invasive species control using integrated weed management in cooperation with State and Federal agencies, counties and private landowners.</p> <p>Montana BLM only: Implement noxious weed and invasive species control, using integrated weed management, in cooperation with state and federal agencies, counties, and private landowners (ROD, p. 49,</p>	Same as Alternative A.	<p>Same as Alternative A; in addition: Treat infested areas focusing on mechanical treatment before the use of herbicides.</p> <p>Do not graze infested areas until native vegetation is restored.</p> <p>Quarantine livestock before entering public lands when coming from infested areas.</p>	Same as Alternative A; in addition: implement weed management actions for noxious and invasive species populations impacting or threatening GRSG habitat.	Actively manage exotic undesirable species sufficient to prevent invasion into areas providing GRSG habitat.	<p>Same as Alternative A; in addition restrict activities that spread invasives.</p> <p>Treat invasives after fire in sagebrush habitat.</p> <p>Ensure that soil and plants are at Ecological Potential in GRSG habitat to reduce vulnerability of invasion.</p>

Table 2-3
Description of Alternatives

Greater Sage-Grouse Planning Proposed Alternatives Summary Table

Range of alternatives considered with a brief summary of what they address.

	Alternative A No Action	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
	Action 11.). Emphasize control in occupied PR and GRSG breeding habitat.					
Lands and Realty Infrastructure	<p>Idaho BLM/Idaho Montana Forest Service: Continue to manage existing and proposed infrastructure projects and rights- of-way under current guidance.</p> <p>Montana BLM only: ROW avoidance areas designated on 123,300 acres; ROW exclusion areas designated on 6,470 acres</p> <p>Retention Lands: 31,645 acres of PPH; 25,419 acres of PGH</p>	<p>ROW Exclusion in PPMA. No new authorizations in PPMA unless development occurs within existing developed footprint.</p>	Same as Alternative B.	<p>Manage PPMA as ROW avoidance areas and exclusion areas for wind and solar development. New authorizations in PPMA for the following uses are not allowed: Transmission facilities (greater than 50kV in size), wind energy testing and development, commercial solar development, commercial geothermal development, nuclear development, oil and gas development, mineral development, airports, and ancillary facilities associated with any of the aforementioned development; paved roads and graded gravel roads, landfills, airports, and hydroelectric projects. Communication sites would be allowed.</p>	<p>Core and Important areas identified as ROW avoidance areas. Core areas – no new infrastructure except for in place upgrades. Important areas – new infrastructure can be authorized if specific criteria are met.</p>	Same as Alternative B.

Table 2-3
Description of Alternatives

Greater Sage-Grouse Planning Proposed Alternatives Summary Table

Range of alternatives considered with a brief summary of what they address.

	Alternative A No Action	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
	Disposal Lands: 426 acres of PPH; 2,191 acres of PGH					
Habitat Restoration and Vegetation Management	<p>Idaho BLM/Idaho Montana Forest Service: Restore vegetation to benefit multiple uses. Promote the use of native species where possible.</p> <p>Montana BLM only: Restore vegetation to benefit multiple uses. Promote the use of native species where possible.</p> <p>See ROD pg. 51 Actions 3, 12, 14 and Appendix X of Dillon ROD/RMP.</p>	Restore native plants to benefit GRSG. Require use of native species when available.	Same as Alternative B; in addition restore exotic seedings to expand occupied habitats.	<p>Implement rehabilitation projects in areas that have potential to improve GRSG habitat.</p> <p>Use chemical, mechanical, and seeding treatments with appropriate native plant materials to stabilize sites and prevent dominance of invasive, annual vegetation, and noxious weeds.</p>	<p>Prioritize the removal of conifers through methods appropriate for the terrain and most likely to facilitate expeditious GRSG population and habitat recovery..</p> <p>Establish establish a mitigation bank of GRSG habitation restoration projects that future development projects would repay through compensatory mitigation requirements.</p>	<p>Same as Alternative B; in addition: exclude livestock from burned areas until woody vegetation reestablishes.</p> <p>Ensure vegetation treatments restore native plants and create landscape patterns that benefit GRSG. Avoid sagebrush reduction treatments.</p>

**Table 2-3
Description of Alternatives**

Greater Sage-Grouse Planning Proposed Alternatives Summary Table

Range of alternatives considered with a brief summary of what they address.

	Alternative A No Action	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Leased Fluid Minerals (Oil, Gas, and Geothermal)³	<p>Idaho BLM, Idaho Montana/Forest Service: Continue to manage under current guidance.</p> <p>Montana BLM only: When leases expire apply oil and gas stipulations listed in Table 5 pg. 44 of Dillon Field Office ROD/RMP also refer to Appendix K and M in Dillon ROD/RMP.</p> <p>Currently no development.</p>	Apply conservation measures through LUP implementation decisions. Do not allow new surface occupancy on federal leases within PPMA. Limit surface disturbance to 3% within priority habitat, while recognizing valid existing rights.	Same as Alternative B.	Use RDFs as Conditions of Approval (COAs) for post-leasing actions, such as surface use plan of operations, application for permit to drill, or master development plan.	Idaho: Apply BMPs to drilling permits in CHZ and IHZ, as appropriate. Leases in CHZ & IHZ subject to NSOs. Utah: Allow leasing in PPMA, subject to CSUs and TLs	Same as Alternative B
Unleased Fluid Minerals	<p>Idaho BLM/Idaho Montana Forest Service: Continue to manage under current guidance.</p>	Close PPMA to leasing. Manage PGMA the same as under Alternative A.	Same as Alternative B and no new leases or permits issued in PPMA.	<p>Areas of no and low potential in PPMA and PMMA for the discovery of fluid minerals are closed to leasing.</p> <p>Areas of moderate and high potential in PPMA and</p>	In CHZ and IHZ, lands are open to leasing subject to NSO stipulations in . An exception may be made if it can be shown that proposed development would not cause GRSG	Upon expiration or termination of existing leases, do not accept nominations/expressions of interest for parcels within PPMA Manage PGMA and PRMA the

Table 2-3
Description of Alternatives

Greater Sage-Grouse Planning Proposed Alternatives Summary Table

Range of alternatives considered with a brief summary of what they address.

	Alternative A No Action	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
	<p>Some LUPs include a management action that prohibits surface disturbing or other disruptive within GRSG breeding and nesting habitat within a certain distance and between certain dates.</p> <p>Montana BLM only: Current oil and gas stipulations listed in Table 5 pg. 44 of Dillon Field Office ROD/RMP. Conservation actions also in Appendix X of Dillon ROD/RMP.</p>			<p>PMMA for the discovery of fluid minerals are open to leasing subject to CSU, timing restrictions in breeding and winter habitat, disturbance density not to exceed 1/640 acres, maximum 3% disturbance/section, 0.6-mile NSO stipulation around occupied or undetermined status leks. Consider use of low profile structures/facilities.</p> <p>PGMA is open to leasing subject to timing limitations in breeding and winter habitat, 0.6-mile NSO stipulation near occupied and undetermined status leks, and implementation of appropriate BMPs.</p>	<p>populations to decline. In Utah PPMA, lands are open subject to CSU and TL stipulations.</p>	<p>same as under Alternative A.</p>
Locatable Minerals⁵	Idaho BLM/Idaho Montana Forest	PPMA recommended for withdrawal from mineral entry.	Same as Alternative B.	No additional areas recommended for withdrawal. Ensure compliance with	Same as Alternative A.	Same As Alternative A.

**Table 2-3
Description of Alternatives**

Greater Sage-Grouse Planning Proposed Alternatives Summary Table

Range of alternatives considered with a brief summary of what they address.

	Alternative A No Action	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
	<p>Service: Continue to manage under current guidance. Procedures and standards are established to ensure that operators and mining claimants meet their obligation to prevent undue or unnecessary degradation and to reclaim disturbed areas.</p> <p>Montana BLM Only: 2,520 acres PPH recommended for withdrawal, 320 acres PGH recommended for withdrawal.</p>	<p>Existing claims would be subject to buyout or validity examination.</p> <p>Make additional effective mitigation mandatory conditions of approval in PPMA.</p>		<p>regulations in 43 CFR 3809 and 36 CFR 228 to prevent unnecessary and undue degradation (from WO IM 2012-044).</p>		
Salable Minerals	Idaho BLM/Idaho Montana Forest	Close PPMA to mineral materials. Manage PGMA the same as	Same as Alternative B.	No new authorizations would be approved within 3 km (1.86 miles) of occupied	In Idaho, same as Alternative A. In Utah, PPMA would be open to	In PPMA, same as Alternative B. In PGMA and PRMA, same as

Table 2-3
Description of Alternatives

Greater Sage-Grouse Planning Proposed Alternatives Summary Table

Range of alternatives considered with a brief summary of what they address.

	Alternative A No Action	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
	<p>Service: Continue to manage under current guidance. Most BLM- and Forest Service-administered land in Idaho is available for consideration of mineral material disposal, however existing guidance in many of the LUPs in the planning area encourages the use of existing disposal sites until the material is depleted.</p> <p>Montana BLM only: Appendix N. SOP for Mineral material sites pg. 169 of Dillon ROD/RMP</p> <p>30,300 acres PPH</p>	<p>under Alternative A.</p> <p>Restore salable mineral pits no longer in use to meet GRSG habitat conservation objectives.</p>		<p>leks. Newly authorized disposals would be subject to seasonal timing restrictions and BMPs, as appropriate. Sales from existing community pits within PPMA would be subject to seasonal timing restrictions.</p> <p>Restore salable mineral pits no longer in use to meet GRSG habitat conservation objectives.</p>	<p>mineral and impacts would be ameliorated or limited through the use of the general stipulations identified in the GRSG section.</p>	<p>Alternative A.</p>

Table 2-3
Description of Alternatives

Greater Sage-Grouse Planning Proposed Alternatives Summary Table

Range of alternatives considered with a brief summary of what they address.

	Alternative A No Action	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
	closed to mineral material disposal 22,600 acres PGH closed to mineral material disposal.					
Non-Energy Leasable Minerals (New Leases)	<p>Idaho BLM/Idaho Montana Forest Service: Continue to manage under current guidance.</p> <p>Montana BLM only: All lands in Dillon Field Office available for development of leasable solid minerals except 124,200 acres Bear trap Wilderness and 9 WSA's Rod/RMP pg. 44⁴</p>	No new leases in PPMA.	Same as Alternative B.	No new leases in PPMA and PMMA. PGMA is available for leasing subject to CSU and TL stipulations.	In Idaho, same as Alternative A. In Utah, consider leasing, but limit or ameliorate impacts from mineral leasing and development through the use of the general stipulations identified in the GRSG section	In PPMA, same as Alternative B. In PGMA and PRMA, same as Alternative A.
Non-Energy Leasable Minerals (Existing Leases)	<p>Idaho BLM/Idaho Montana Forest Service: Continue to</p>	For existing non-energy leasable mineral leases in PPMA, in addition to the solid minerals RDFs (Appendix C), follow	Same as Alternative B.	In all areas require timing restrictions (seasonal and daily) and appropriate BMPs.	Same as Alternative A.	Same as Alternative B.

Table 2-3
Description of Alternatives

Greater Sage-Grouse Planning Proposed Alternatives Summary Table

Range of alternatives considered with a brief summary of what they address.

	Alternative A No Action	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
	manage under current guidance. Montana BLM only: Phosphate-Only one, may not be active any longer, Not in PPH or PGH	the same RDFs applied to Fluid Minerals.				
Recreation and Visitor Services⁶	Idaho BLM/Idaho Montana Forest Service: Consider BLM SRPs and Forest Service Recreation Special Use Permits on a case-by-case basis. Montana BLM only: Seven outfitter permit areas identified. Pg. 54 ROD/RMP - Authorize special recreation permits (SRPs) in accordance with SRPH 2930-1, no Acres excluded	In PPMA only permit special uses that are neutral or beneficial to GRSG.	Same as Alternative A.	SRPs and Forest Service Recreation Special Use Permits would be analyzed on a case-by-case basis to minimize impacts on GRSG and/or habitat.	In Utah habitat, limit or ameliorate impacts from recreation activities through the use of the general stipulations.	Same as Alternative B; also sesonally prohibit camping and other non-motirzed recreation within 4 miles of active leks.

**Table 2-3
Description of Alternatives**

Greater Sage-Grouse Planning Proposed Alternatives Summary Table

Range of alternatives considered with a brief summary of what they address.

	Alternative A No Action	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
	from SRPs.					
Travel and Transportation	<p>Idaho BLM/Idaho Montana Forest Service: Continue to manage under current guidance. Most areas open to OHV use. Montana BLM areas are limited to designated routes.</p> <p>Montana BLM only: All motorized travel restricted to designated routes.</p> <p>There are 920 miles of designated routes in PPH and 400 miles in PGH.</p> <p>No off-road travel allowed by the public</p>	Designate all occupied habitat as limited to existing roads and trails until travel management planning is completed. At that time, all occupied habitat would be limited to designated routes.	Same as Alternative B (same as Alternative A for Forest Service-administered lands).	Same as Alternative B, in addition existing designated OHV open “play” areas would remain open.	<p>In Idaho, same as Alternative B.</p> <p>In Utah habitat, PPMA with nesting and winter habitat would be managed at least as limited to existing or designated roads and trails depending on whether the area has undergone Travel Management Planning.</p>	Same as Alternative B.
Livestock Grazing	Idaho BLM/Idaho Montana Forest	Incorporate GRSG habitat objectives into all BLM and Forest Service	No authorized grazing within occupied GRSG habitat.	Within grazing allotments containing GRSG habitat, incorporate grazing	Prioritize allotments for permit renewal and review where GRSG populations	Same as Alternative B; in addition, reduce authorized grazing by

Table 2-3
Description of Alternatives

Greater Sage-Grouse Planning Proposed Alternatives Summary Table

Range of alternatives considered with a brief summary of what they address.

	Alternative A No Action	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
	<p>Service: Continue to manage under current guidance. Consider changes in grazing management on a case-by-case basis.</p> <p>Montana BLM Only: Continue to manage under current guidance. Consider changes in grazing management on a case-by-case basis. 456,100 acres PPH available for livestock grazing</p> <p>212,200 acres PGH available for grazing</p>	grazing permits and Allotment Management Plans (AMPs) in priority areas.	Grazing will remain unchanged in areas outside of occupied GRSG habitat.	management measures designed to meet GRSG habitat objectives through AMPs, grazing permit renewal or permit modification processes.	are declining. Adjust grazing permits during the renewal process to include measures to achieve desired habitat conditions if livestock grazing is found to be limiting the achievement of the habitat characteristics.	25% within occupied GRSG habitat.
Areas of Critical Environmental Concern	<p>Idaho BLM/Idaho Montana Forest Service: No existing ACECs include GRSG as a relevant and</p>	Same as Alternative A.	Designate and manage ACECs to function as sagebrush reserves to conserve GRSG.	Same as Alternative A.	Same as Alternative A.	Designate and manage ACECs (BLM) and GRSG Zoological Areas (Forest Service) to function as sagebrush reserves to conserve GRSG.

Table 2-3
Description of Alternatives

Greater Sage-Grouse Planning Proposed Alternatives Summary Table

Range of alternatives considered with a brief summary of what they address.

	Alternative A No Action	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
	<p>important value. Maintain designation of 53 existing ACECs containing 325,000 acres of occupied GRSG habitat.</p> <p>Montana BLM Only: No existing ACECs include GRSG as a relevant and important value. Maintain designation of existing ACECs, including 35,361 acres overlapping PPH and 1,476 acres overlapping PGH.</p>					
Adaptive Management	No adaptive management strategy.	Develop adaptive management strategy.	Same as Alternative B.	Use habitat and population triggers to adjust management in PMMA. All management identified for PPMAs would apply to PPMAs in response to triggers.	Use hard and soft population and habitat triggers to adjust management in Important Habitat Zones (IHZ). Management from Core Habitat Zones (CHZ),	Same as Alternative B.

Table 2-3
Description of Alternatives

Greater Sage-Grouse Planning Proposed Alternatives Summary Table

Range of alternatives considered with a brief summary of what they address.

	Alternative A No Action	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
					primarily for infrastructure, would apply to IHZ in response to triggers.	
Monitoring	No comprehensive monitoring strategy.	Develop comprehensive monitoring strategy.	Same as Alternative B.	Same as Alternative B.	Utilize lek monitoring and habitat monitoring to annually assess adaptive management triggers.	Same as Alternative B.
Mitigation	No comprehensive mitigation strategy.	Develop mitigation strategy to reduce impacts from activities to GRSG (Appendix F).	Same as Alternative B.	Same as Alternative B.	Utilize State Mitigation Framework to help determine appropriate mitigation for projects in CHZ.	Same as Alternative B.

¹Appendix X of Dillon ROD/RMP - Conservation measures delineated in the Montana GRSG conservation strategy developed by a joint working group will be considered and used as the basis for conserving GRSG populations through implementation of the Dillon RMP.

²Yearly coordination meetings are held between cooperating agencies that have fire suppression responsibilities. At that meeting updates to priority suppression areas are discussed and maps distributed showing priority suppression areas (i.e., GRSG habitat PPH, PGH, Core Habitat)

³Dillon Field Office currently has no level of development, all leases post ROD/RMP in 2006 have stipulations applied. (a hold was put on leases during RMP revision, therefore leases prior to ROD in 2006 will be up to expire as soon as 2014.) Last Geophysical exploration was in 2008, nothing has been developed on those leases since the exploration.

Recommendation is to have additional/more restrictive stipulations, or NSO in PH/Core habitat.

- **Appendix M of Dillon ROD/RMP. Procedures in Oil and Gas Recovery states: pg. 156 pp6 “In areas where oil and gas development may conflict with other resources, the areas may be closed to leasing.”**
- Apply NSO in Priority Habitat?
- Appendix X of Dillon ROD/RMP. pg. 210 includes conservation actions for Mining and Energy Development.

⁴Pg 44, last pp. “ Make lands in planning area available for geothermal leasing, unless in wilderness or WSA, or in instances where it is determined that issuing the lease would cause unnecessary or undue degradation to public lands and resources.”

⁵Existing withdrawals may or may not be mineral withdrawal PPH =17,752 acres PGH = 6859 acres

⁶Accept consider and analyze applications for recreational activity that requires a SRP other than outfitted hunting on a case-by-case basis. **WSA** – PPH = 20,161 acres and PGH=20,162 acres.

2.5 Preferred Alternative

2.5.1 Consideration for Selecting a Preferred Alternative

The alternatives offer a range of discrete strategies for resolving deficiencies in existing management, exploring opportunities for enhanced management, and addressing issues identified through internal assessment and public scoping related to maintaining or increasing GRSG abundance and distribution on BLM- and Forest Service-administered lands. Comments submitted by other government agencies, public organizations, state and tribal entities, and interested individuals were given careful consideration. Public scoping efforts enabled the BLM and Forest Service to identify and shape significant issues pertaining to GRSG habitat: wildfire, invasive species, energy development and infrastructure, livestock grazing (including livestock-related infrastructure), recreation, disease (West Nile Virus), potential ACECs, public land access, and other program areas. Cooperating agencies reviewed and provided comments at critical intervals during the alternative development process, as well as the EIS process in general.

Planning regulations require the BLM and Forest Service to identify a preferred alternative in the draft LUPA/EIS. Formulated by the planning team, the preferred alternative represents those goals, objectives, and actions determined to be most effective at resolving planning issues and balancing resource use at this stage of the process. While collaboration is critical in developing and evaluating alternatives, the final designation of a preferred alternative remains the exclusive responsibility of the BLM and Forest Service.

2.5.2 Identification of the Preferred Alternative

Identifying a Preferred Alternative(s) does not indicate any final decision commitments from the BLM or the Forest Service. In developing the Proposed LUPA/Final EIS, which is the next phase of the planning process, the decision maker may select various goals, objectives, allocations and management prescriptions from each of the alternatives analyzed in the Draft LUPA/EIS. The Proposed LUPA/Final EIS may also reflect changes and adjustments based on comments received on the Draft LUPA/EIS, new information, or changes in BLM or Forest Service policies or priorities. The BLM and Forest Service have the discretion to select, as the Proposed LUPA, an alternative in its entirety or to combine aspects of the various alternatives presented in this Draft LUPA/EIS. This allows the BLM and Forest Service to select the best management strategy that incorporates appropriate conservation measures into existing LUPs to conserve, enhance, and restore GRSG habitat by reducing, eliminating, or minimizing threats to that habitat and meets resource needs within the Idaho and Southwestern Montana Sub-Region, in accordance with the agencies' mandates for multiple use and sustained yield.

Alternatives D and E have been identified as co-Preferred Alternatives for the purposes of public comment and review. These alternatives each have different strengths that reduce, eliminate or minimize threats to GRSG and their habitat and the BLM and Forest Service are considering the management guidance described within each of these alternatives as ways to respond to GRSG threats within the Idaho and Southwestern Montana Sub-Region.

Alternative D provides LUP guidance and conservation measures for all BLM and Forest Service managed programs that affect GRSG or their habitat. It provides a consistent approach to BLM and Forest Service management within the entire sub-region. It is also consistent with existing regulations and policy.

Alternative E primarily provides LUP guidance for the primary threats in Idaho – wildfire, invasive species and infrastructure development. It also includes LUP guidance for some other BLM and Forest Service programs which affect GRSG or their habitat. This alternative also includes four foundational elements: habitat zones; conservation areas; population objectives; and adaptive triggers.

Alternatives D and E have both categorize GRSG habitat into three delineations (management areas in Alternative D and habitat zones in Alternative E) which differentiate them from the other alternatives analyzed in the Draft LUPA/EIS. In Alternative D, the management areas are PPMA, PGMA, and PMMA. In Alternative E, the habitat zones are CHZ, IHZ and GHZ.

The BLM used the impact analysis, along with knowledge of specific issues raised throughout the planning process; recommendations from the tribes, cooperating agencies, and BLM and Forest Service resource specialists; consideration of planning criteria; and anticipated resolution of resource conflicts to identify Alternatives D and E as co-Preferred Alternatives from the suite of alternatives analyzed. Specifically, the selection of the co-Preferred Alternatives was based on the following:

- Satisfaction of statutory requirements;
- Achievement of BLM goals and policies;
- Achievement of the purpose and need;
- Provision of an acceptable approach to addressing key planning issues; and
- Consideration of cooperating agencies and BLM specialists' recommendations.

2.6 Detailed Description of Alternatives

No single factor is the cause of declining GRSG populations. However, the 2010 Finding identified threats that have adversely affected the number of GRSG and the amount, distribution, and quality of their habitat (USFWS 2010a). The principle regulatory mechanism for BLM and Forest Service management of GRSG and their habitat is conservation measures in LUPs.

The following description of alternatives includes two integral components to thoroughly describe the individual alternatives: a text description of individual components that require a more thorough description in order to adequately describe that aspect of the proposed management; and a management actions table that describes specific goals, objectives, and management actions associated with each alternative. These two pieces are not stand alone



components and are meant to be taken together to describe the management approach in each alternative.

2.6.1 Alternative A – No Action

Development of the No Action Alternative

BLM and Forest Service staff within the Idaho and Southwestern Montana Sub-region reviewed the 29 LUPs being amended by this LUPA/EIS for resource program goals, objectives, and management actions that influence GRSG and their habitat. The 29 LUPs address the management of GRSG and their habitat in varying levels of detail and management specificity. In general, the more recent LUPs provide more specific management actions and restrictions on disturbing GRSG and their habitat. The older LUPs contain a more general type of adaptive management for GRSG and their habitat.

For the Idaho and Southwestern Montana Sub-region, the BLM and Forest Service determined certain resource programs (as described in Appendix C of the BLM Land Use Planning Handbook) do not contain goals, objectives, and management actions that directly influence GRSG and their habitat. Consequently, the resource programs listed below are not discussed further under the No Action Alternative (the present management direction and current prevailing conditions for managing GRSG and their habitat):

- Resource: air, soil and water, cultural resources, paleontology, visual resources, wilderness characteristics, cave and karst resources.
- Resource use: forestry and oil shale.

The remaining resource programs not listed above contain a mixture of goals, objectives, and management actions that influence GRSG and their habitat. These constitute the present management direction and current prevailing conditions for managing GRSG and their habitat in the areas covered by the 29 Idaho and Southwestern Montana Sub-region LUPs. They are described below in **Section 2.7.1.2, Detailed Description of No Action Alternative**.

Detailed Description of the No Action Alternative

The No Action Alternative (Alternative A) represents the continuation of current management direction in the 21 BLM- and 9 Forest Service-approved LUPs and associated program-specific plans or amendments developed between 1976 and 2012; it proposes no new plan or management actions. This alternative is required by CEQ regulations and provides a baseline for comparison of the other alternatives and their impacts on resources and resource values (CEQ 1981). As a baseline for comparison, the No Action Alternative is not required to meet the Agency Purpose and Need, and therefore must be assessed in an environmental impact statement as a basis for comparison.

The LUPs and their associated amendments, activity and implementation level plans and other management decision documents, collectively provide a varying range of goals, objectives, plan decisions and allocations for resources and resource uses that reflect the issues at the time of their development. Direction contained in existing statutes, regulations

and policies would also continue to be implemented and may at times supplement existing LUPs. Existing planning guidance regarding GRSG and GRSG habitat is presented by LUP in **Appendix G**.

The descriptions below identify current BLM and Forest Service management of GRSG and their habitat in the planning area. **Table 2-2** summarizes relevant planning level decisions and allocations from the existing LUPs. When no specific management exists, general descriptions are provided identifying how management influences GRSG and their habitat. Overall the No Action Alternative will highlight those decisions that can be shown to have a direct effect or link to conserving or restoring GRSG habitat or sagebrush vegetation communities that support GRSG throughout their life cycle.

Goals and objectives for BLM and Forest Service-administered lands and mineral estate would not change and Priority and General Habitats would not be designated. Appropriate and allowable uses and restrictions pertaining to activities such as mineral leasing and development, recreation, construction of utilities or other BLM and/or Forest Service-authorized actions, and livestock grazing would also remain the same. The BLM and Forest Service would not modify existing or establish additional criteria to guide the identification of site-specific use levels for implementation activities. Existing ACECs would continue to be managed, but no new ACECs would be designated. Management for GRSG would occur largely on a case-by-case basis and management would not be consistent across the planning area. In general, older plans do not include objectives specific to GRSG. More recent plans (those completed after 2000) may include an objective to advance conservation of the GRSG and GRSG habitat, although a mechanism for achieving GRSG-specific objectives is infrequently identified. Some guidance would be provided via BLM and Forest Service special status species policy, and collaborative state-level and LWG GRSG plans would be consulted, as appropriate.

Goals and objectives for resources and resource uses are based on the most recent LUP decisions, along with associated amendments, activity and implementation level plans, and other management decision documents. Laws, regulations, and BLM and Forest Service policies that supersede LUP decisions would apply.

Greater Sage-Grouse Mapping and Habitat Designation

Due to differences in state-level mapping efforts in Idaho and Montana, there is currently no consistent designation of specific GRSG seasonal habitat or vegetation across the sub-region.

Idaho BLM, in coordination with IDFG, other agency partners, and LWGs, has developed and maintained a Key Sage-Grouse habitat map over the last 12 years which depicts areas of generally intact sagebrush habitat for GRSG at some time of the year (Key habitat) and areas where restoration could potentially occur to restore habitat conditions (R1 – perennial grass dominated areas; R2 – annual grass dominated areas; and R3 – conifer encroachment areas). Montana BLM in coordination with MFWP has developed a Core Habitat map that depicts important areas for GRSG (Core areas). These maps (the Idaho Key Habitat and Montana Core Habitat) do not represent any habitat designation with associated management



direction, but instead are used as an information tool to help prioritize site specific management, suppression and rehabilitation efforts.

Several National Forests have designated GRSG habitat with associated management guidance. These include the Beaverhead-Deerlodge, Caribou-Targhee, and Sawtooth national forests, and Curlew National Grassland. The habitat designations were typically defined as buffers around existing leks and management was adjusted within those areas (**Figure 2-1**). The Beaverhead-Deerlodge National Forest (BDNF) identifies and designates areas within an 18 km buffer of documented active or inactive GRSG leks, including goals and objectives and associated management actions. This 18km radius model (SILC model) is based solely on the radius suggested by Connelly et al. (2000) for managing migratory GRSG populations. The BDNF Forest Plan provides direction for these areas as follows: “Sagebrush habitat supports Sage-Grouse and pygmy rabbit populations by providing suitable Sage-Grouse brood-rearing habitat on at least 40 percent of the sagebrush habitat within 18 kilometers of documented active or inactive Sage-Grouse leks and the area mapped as potential pygmy rabbit habitat.”

The SILC model is subject to change in any given year based on the lek locations annually updated by MFWP. The “habitat” in the BDNF models was the best approximation of structure within the 18km radius and not based on any prior designation of habitat by MFWP, such as that delineated by the current PPH/PGH habitat polygons. The designations in the SILC map are an independent effort by the Forest Service.

Standard 8 in the BDNF plan further states: “Within 18 kilometers of documented active or inactive Sage-Grouse leks, do not remove sagebrush within 300 meters of riparian zones, meadows, lakebeds or farmland, unless site specific analysis indicates such removal promotes achievement of the sagebrush habitat goal. Springs developed for livestock water in these areas must be designed to maintain free water and wet meadows.”

The SILC model will be revised to incorporate BLM Washington Office direction to use the STIVER methodology currently under revision. In addition, the Forest Service is shifting to V-MAP as the basis for habitat modeling. Therefore the BDNF SILC modeled GRSG habitat will be replaced upon completion of this new modeling effort.

Lands and Realty

The BLM lands and realty program identifies lands for retention or disposal and issues ROW grants, such as for energy infrastructure. All of the LUPs lack specific lands and realty goals, objectives, or management actions directly related to GRSG and their habitat.

Land Tenure

The Idaho and Southwestern Montana Sub-region LUPs identify lands for retention and disposal through land tenure adjustments. All BLM- and Forest Service-administered lands are held in retention unless identified for disposal and lands with high resource value are retained and not identified for disposal. In general, BLM- and Forest Service-administered lands designated for potential disposal under Section 203 of FLPMA do not take into consideration excluding GRSG habitat from disposal. However, retaining and disposing of

land for other reasons indirectly influences GRSG and their habitat that happen to share the same area. Likewise, lands with high resource value would be acquired, and this could include GRSG habitat. **Table 2-2** lists the acres of lands for retention, disposal, and acquisition that contain GRSG habitat in the decision area for this LUPA/EIS.

Land Use Authorizations

A ROW is typically authorized through a grant, although sometimes a permit or lease may be issued. A ROW grant is an authorization to use a specific piece of BLM- or Forest Service-administered land for a specific period and use, such as roads, railroads, utilities, and communication sites. In general, a BLM or Forest Service ROW is granted for a term appropriate to the life of a project and often requires the grant holder to comply with stipulations, such as design features. Because ROW grants are site-specific, the LUPs being amended by this LUPA/EIS vary in their criteria for issuing a ROW grant and establishing ROW stipulations. However, the presence of sensitive resources, such as sagebrush habitat, is typically examined before a ROW grant is issued.

Some Idaho and Southwestern Montana Sub-region LUPs identify ROW avoidance and exclusion areas in order to manage these areas for particular purposes, such as to protect habitat. Depending on the purpose of a ROW avoidance or exclusion area, it can directly or indirectly influence GRSG and their habitat. **Table 2-2** lists the acres of ROW avoidance and exclusion areas that contain GRSG habitat in the Decision Area for this LUPA/EIS. Figures at the end of this chapter illustrate ROW avoidance and exclusion areas that contain GRSG habitat in the decision area for this LUPA/EIS.

BLM designates utility corridors in accordance with Section 503 of FLPMA. These are designated in some of the Idaho and Southwestern Montana Sub-region LUPs. West-wide Utility Corridors and the West-Wide Energy Corridors neither identified nor designated GRSG conservation objectives. **Table 2-2** lists the acres of utility corridors that contain GRSG habitat in the decision area for this LUPA/EIS. Figures at the end of this chapter illustrate utility corridors that contain GRSG habitat in the Decision Area for this LUPA/EIS.

Vegetation

Most of the Idaho and Southwestern Montana LUPs prescribe management specific to the type of vegetation existing in the planning area. Guidance and management direction for general vegetation is fairly broad and trend toward maintaining the components of the vegetative community in the same relative proportion as those which would have historically occurred in the area. This guidance also indicates plant communities should be maintained in a healthy condition or improved particularly when they provide important habitat for wildlife species such as GRSG. Guidance found in management direction for general vegetation also indicates balancing demands for resource uses.

Rangeland Vegetation

The Idaho and Southwestern Montana LUPs vary in their focus for management of rangelands. Many older LUPs (e.g., MFPs) include specific objectives for vegetation treatments that increased desirable forage species for livestock, usually focusing on reducing



the sagebrush overstory. Even with this as a primary management objective, these LUPs often recognized the existence of important habitat for GRSG and instituted modifications of projects to provide sufficient forage to cover ratio to meet wildlife needs. In addition, many of the older LUPs recognized the need to improve the ecological condition of rangelands and prescribed that management changes and restoration activities occur to improve rangelands in poor condition.

More recent LUPs address rangeland vegetation in terms of biotic integrity or functionality and address the reduction of sagebrush habitats over large areas. These LUPs prescribe management actions in areas of large crested wheatgrass seedings to introduce forb and brush components and move toward desired conditions. They also generally prescribe management that moves rangeland communities toward historical vegetative conditions. Some segments of the planning area contain large blocks of sagebrush that has been undisturbed for many years and the canopy cover is much higher than what would have occurred historically. Management actions in these areas include those that treat sagebrush with a goal of thinning or creating small openings that form mosaics of sagebrush canopy and grass/forb dominated vegetation often with the goal of providing improved GRSG habitat. Ecological site descriptions define the type of plant community that could be expected given the soils, precipitation and other factors for each site and are used as a basis for determining proper management.

Woodlands

Many of the LUPs identify the conversion of sagebrush steppe communities into conifer woodlands as an important factor contributing to GRSG habitat decline within portions of the Idaho and Southwestern Montana GRSG planning sub-region. An added effect of this expansion is an increase in raptor perch sites which makes GRSG more vulnerable to predation.

All LUPs which recognized conifer expansion and its effects on sagebrush steppe habitat uniformly identified the need for controlling conifer expansion through various methods including: hand cutting, wood cutting, mechanical, prescribed fire, chemical treatments, and through the use of wildfire where feasible. The objective of such treatments would be to prevent further conifer expansion, to begin restoring shrub steppe communities which have been converted to juniper woodlands, and where applicable to restore the natural fire regime for the long term maintenance of these higher elevation shrub steppe communities.

Invasive Species and Noxious Weeds

The loss of native plant communities to annual grasses is a component of many LUPs and integrated weed management is a consistent theme. Some LUPs address the desire to reduce sagebrush cover loss and prescribe activities to restore desirable plant communities, often acknowledging the difficulty of this process in areas dominated by annual grasses. A consistent theme is the preference for the use of native species along with the acknowledgement that in some instances, vegetative treatments may not be successful without the use of nonnative desired species. Older LUPs are relatively silent on the subject of weeds.

The Idaho and Southwestern Montana sub-region LUPs which contain specific vegetation management direction that directly influences GRSG and their habitat is provided in **Appendix G**.

Habitat Restoration

Habitat restoration and vegetation management: Restoration actions from previous fires and the control of weeds and invasive plants would continue on a case-by-case basis. Some LUPs contain objectives for maintaining, improving, or restoring sagebrush plant communities. The level of detail varies depending on the age of the land use plan. LUPs generally address vegetation treatments for improvement of wildlife habitat overall or to provide increased forage for wildlife, livestock, and wild horses and burros. Recent plans may include management actions that purposely restore or enhance GRSG habitat. Noxious weed and invasive species control would be implemented using integrated weed management actions per national guidance and local weed management plans in cooperation with state and federal agencies, affected counties, and adjoining private lands owners.

Wildland fire management: mechanical treatments, prescribed fires, and other treatments would be utilized to prevent conifer encroachment and remove invasive plants. Prescribed fire would be allowed in sagebrush vegetation communities, subject to NEPA and existing land use plan and fuels management constraints. Fire suppression would be prioritized to protect human life and high value resources. Although LUPs do not provide specific direction for fire suppression in GRSG habitat, protection of this habitat has received more attention due to large fires in sagebrush in recent years. Rest from livestock grazing would be required after any major vegetation disturbance, including wildland fire. The specific timing and duration of rest would be determined during site-specific NEPA analysis and would be consistent with the existing LUP.

Wildland Fire

LUPs vary in their identification of site-specific fire management practices and fuels treatment actions needed to meet the broad-scale land use plan goals and objectives, as well as any measures needed to protect sensitive resources. Wildland fire management involves addressing fire suppression, wildfire managed for LUP objectives, prescribed fire, and fuels treatments. Fire management plans and wildland fire implementation plans are developed to manage fires according to LUP goals and objectives.

Each LUP supports the development and adherence to a more detailed fire management plan that outlines priorities and levels of suppression for particular vegetation classes or resource protection. In general, wildfire response intensity is determined by the values at risk, which could include GRSG habitat. Typically, the LUPs place priority for suppression on the protection of life and property followed by important resource values. After a wildland fire, emergency stabilization and rehabilitation (ESR) actions may be used to protect valuable resources, such as GRSG habitat, and/or to reduce the potential for invasive species spread. Specific ESR actions taken following fire can include soil erosion prevention measures, seeding and planting of native and/or nonnative species, herbicide treatment, fence construction, and many other restoration measures, which may affect GRSG and their habitat.



Management common to most LUPs includes an emphasis on fire protection, minimizing damage to vegetation from fire suppression, and consideration of important wildlife areas, including GRSG seasonal habitats, to evaluate all prescribed burns, vegetation management treatments, and suppression actions. Fuel breaks and other vegetation treatments would be used in restoration and key habitats to reduce risk of wildfire and reconnect key and restoration habitats. In addition, prescribed burn plans may be altered in areas with recent wildfires to reduce cumulative effects on wildlife habitat. ESR activities on burned areas focus on site recovery and reducing the size of future fires through strategic use of both native plants material and fire resistant plant material. Fire management would also aim to reduce the spread and cover of invasive annuals by using vehicle wash stations, partnering with other groups to prioritize areas for restoration, and converting cheatgrass areas to perennials in certain areas.

Minerals

Fluid minerals, locatable minerals, salable mineral materials, and non-energy solid leasables are managed in accordance with applicable laws, regulations, and LUPs in the Idaho and Southwestern Montana Sub-region. In general, the goals and objectives in the sub-region's LUPs for minerals management are to allow for opportunities to develop the resource while preventing undue or unnecessary degradation of BLM- and Forest Service-administered lands. The LUPs being amended by this LUPA/EIS vary in their stipulations and restrictions on mineral activities.

However, consideration of potential impacts on critical resources, such as GRSG habitat, from minerals activities is required in a site-specific NEPA document.

Many of the Idaho and Southwestern Montana sub-region LUPs contain specific minerals management direction that directly influences GRSG and their habitat. This is provided in **Appendix G**.

Energy and mineral development: Acres open and closed would continue (**Table 2-2**). LUPs may: 1) apply stipulations to surface disturbing activities; 2) contain an appendix that outlines BMPs that are applied on a case-by-case basis; 3) include a larger protective buffer; and may include a management action that prohibits surface disturbing or other disruptive activities within GRSG breeding, nesting, and/or winter habitat within a certain distance and between certain dates.

Fluid Minerals

In its LUPs, the BLM manages land as open or closed to leasing for fluid minerals (oil, gas, and geothermal). The Forest Service will have made a specific oil and gas leasing availability decision that identifies lands that are open or closed to leasing. It also will have identified stipulations for protecting surface resources. The BLM can offer Forest Service-administered lands for oil and gas leasing only in cases where the Forest Service does not object or consents to the leasing. Geothermal leases are considered on a case-by-case basis. The BLM must have Forest Service consent in order to offer lands for geothermal lease.

Leaseholders are required to comply with the terms and conditions of the lease. Additional stipulations, such as CSU, TL, or NSO, may be attached to a lease if the standard lease stipulations do not adequately protect a sensitive resource. If a resource cannot be adequately protected through the use of stipulations, the BLM may close that area to leasing. All fluid mineral leases in the sub-region include the following stipulation, which would directly influence GRSG and their habitat:

Special Status Species Stipulation:

The lease area may now or hereafter contain plants, animals or their habitats determined to be threatened, endangered, or other special status species. BLM and Forest Service may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM-approved activity that will contribute to a need to list such a species or their habitat. BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. BLM will not approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the ESA, 16 USC 1531 et seq., including completion of any required procedure for conference or consultation.

Stipulations to protect other sensitive resources may indirectly protect GRSG and their habitat where these areas overlap. In addition, **Table 2-2** lists the acres that are open and closed to fluid minerals leasing that contain GRSG habitat in the decision area for this LUPA/EIS. Figures at the end of this chapter illustrate areas that are open and closed to fluid minerals leasing that contain GRSG habitat in the decision area for this LUPA/EIS. **Appendix G** provides a more detailed breakdown of fluid mineral resource management specific to GRSG habitat for the Idaho and Southwestern Montana Sub-region LUPs.

The main goal for this program is to encourage and facilitate fluid mineral development in a manner that does not cause unnecessary or undue degradation. Most of the Idaho BLM LUPs developed since the mid-1980s protect GRSG habitat from impacts associated with oil and gas or geothermal development activities through the use of timing limitation stipulations. These may include restricting occupancy and ground disturbing activities during certain times of the year to protect GRSG habitat. Table 2-4, Existing Fluid Minerals Timing Restrictions To Protect Greater Sage-Grouse Habitat, By Land Use Plan, lists timing restrictions for surface disturbing activities in different GRSG habitats, by LUP.

Of the 21 BLM plans currently in effect, 13 plans have some type of timing limitations for GRSG, while 6 plans do not. Mineral leasing is prohibited on lands covered by the Craters of the Moon and Snake River Birds of Prey RMPs. The Targhee is the only National Forest within the decision area that includes fluid mineral leasing stipulations for GRSG habitat.



Table 2-4
Existing Fluid Minerals Timing Restrictions To Protect Greater Sage-Grouse Habitat, By
Land Use Plan

Land Use Plan	Winter Range	Breeding/Lekking Grounds	Nesting/Brood Rearing Habitat
Cascade RMP	12/1 to 2/15	2/15 to 6/30	4/15 to 6/30
Owyhee RMP	12/1 to 2/15	2/15 to 6/30 (2 mile radius)	Included in breeding ground time limit
Kuna RMP	No timing restriction	March to May (2 miles)	No timing restriction
Bruneau RMP	No timing restriction	March to May (2 miles)	No timing restriction
Jarbridge RMP	12/1 to 2/15	2/15 to 6/30	4/15 to 6/30
Monument MFP	No timing restriction	No timing restriction	No timing restriction
Bennett/Timmerman	No timing restriction	No timing restriction	No timing restriction
Cassia RMP	No timing restriction	4/1 to 6/15	4/1 to 6/15
Magic MFP	No timing restriction	No timing restriction	No timing restriction
Sun Valley MFP	No timing restriction	No timing restriction	No timing restriction
Twin Falls MFP	No timing restriction	No timing restriction	Stay on existing roads 3/15 to 6/15
Challis RMP	No timing restriction	3/1 to 5/15 (500 feet from lek)	4/15 to 6/30 (1/4 mile from essential habitat)
Big Lost MFP	No timing restriction	2/1 to 6/15	2/1 to 6/15
Medicine Lodge RMP	12/1 to 4/1	3/1 to 5/1	5/1 to 7/1 (Tex Cr. WMA = 4/1 to 7/1)
Pocatello RMP	12/1 to 4/1	3/1 to 5/1	5/1 to 7/1
Malad MFP	No timing restriction	No timing restriction	No timing restriction
Lemhi RMP	No timing restriction	3/1 to 4/30	4/30 to 6/30
Little Lost/Birch Cr	No timing restriction	No timing restriction	No timing restriction
Dillon RMP	12/1 to 5/15	1/4 mile radius of lek	3/1 to 6/30 (3 miles)
Targhee National Forest Plan	Stipulations are not specific to GRSG and thus do not have specific dates associated with them. However, NSO, CSU, and timing limitations would be applied sufficient to protect GRSG seasonal habitats.		

Locatable Minerals

Under the General Mining Act of 1872 (17 Stat. 91), any US citizen may stake a mining claim for locatable minerals on open, available federal lands, giving the claimant a possessory right to develop the locatable mineral resource. The recognition of a mining claim is a non-discretionary activity: As long as the lands are open to locatable mineral entry, and as long as the claimant maintains the mining claim on an annual basis in accordance with regulations at 43 CFR Parts 3830 through 3838, the mining claim is considered active. If the claimant fails to properly locate or maintain the claim on an annual basis, the claim is forfeited. The BLM's role is limited to recording and adjudicating the location notices and maintenance filings, and preventing undue or unnecessary degradation of the lands under FLPMA.

If a claimant wants to perform mining operations other than casual use on BLM-administered lands, a Notice or Plan, filed under 43 CFR 3809, must be filed with the BLM (or 43 CFR 3802, if the claim is located on lands under wilderness review). The Forest

Service has different minerals management regulations, under 36 CFR 228. The purpose of these regulations is to prevent unnecessary or undue degradation of BLM- and Forest Service-administered lands by operations authorized by the mining laws. The regulations establish procedures and standards to ensure that operators and mining claimants meet their obligation to prevent undue or unnecessary degradation and to reclaim disturbed areas.

Locatable minerals include metallic minerals (such as gold, silver, lead, copper, zinc, and nickel), nonmetallic minerals (such as fluor spar, mica, certain limestones and gypsum, tantalum, heavy minerals in placer form, and gemstones), and certain uncommon variety minerals. The regulations guiding these minerals are found in 43 CFR 3800 and 36 CFR 228A. Within the Idaho and Southwestern Montana Sub-region, lands are generally open to locatable mineral location under the mining law. The existing LUPs identify areas that are closed to mineral entry but are silent on mitigation measures to be taken in GRSG habitat.

Specific areas are withdrawn from locatable mineral entry in order to protect sensitive resources. A withdrawal can directly or indirectly influence GRSG and their habitat. **Table 2-2** lists the acres that are open and withdrawn to locatable mineral entry that contain GRSG habitat in the Decision Area for this LUPA/EIS. Figures at the end of this chapter illustrate areas that are open and withdrawn to locatable mineral entry that contain GRSG habitat in the decision area for this LUPA/EIS.

Salable Minerals Materials

Mineral materials include sand, gravel, most building and landscaping stone, pumice, and other common variety materials that are not subject to mineral leasing or location under the mining laws. The Materials Act of 1947 authorizes disposal of mineral materials on BLM- and Forest Service-administered lands through a sales system, and provides for free use of material by government agencies, municipalities or non-profit organizations, if the material is not to be used for commercial purposes. Permitting the removal or extraction (i.e., disposal) of mineral materials on BLM- or Forest Service-administered lands is a discretionary activity. The BLM will not authorize the disposal of mineral materials if it is determined that the aggregate damage to BLM- or Forest Service-administered lands and resources would exceed the public benefits that the BLM expects from the proposed disposal; nor will the BLM dispose of mineral materials from areas identified in land use plans as not appropriate for mineral materials disposal (43 CFR 3601.11 and 3601.12).

Most BLM- or Forest Service-administered land in Idaho is available for development of mineral material disposal; however existing guidance in many of the LUPs in the planning area encourages the use of existing disposal sites until the material is depleted.

Disposal of mineral materials can directly or indirectly influence GRSG and their habitat. **Table 2-2** lists the acres that are open and closed to salable mineral material disposal that contain GRSG habitat in the decision area for this LUPA/EIS. Figures at the end of this chapter illustrate areas that are open and closed to salable mineral material disposal that contain GRSG habitat in the decision area for this LUPA/EIS.



Non Energy Solid Minerals

Some solid minerals are leasable, including phosphate, sodium, and potassium. The regulations guiding these minerals are found in 43 CFR Parts 3500 and 3590.

The Pocatello Field Office has the largest non-energy solid leasable mineral program within the sub-region, as the phosphate resource in that field office is substantial. Most of the leases were issued between the 1950s and 1980s and will not expire. Terms and conditions, including stipulations, may be readjusted every 20 years. The goal of the 2012 Pocatello RMP is to develop mineral resources consistent with other resource use direction. Protective measures adopted in the Pocatello RMP would protect GRSG breeding habitat. The 2012 Pocatello RMP establishes operational standards and guidelines for reclamation plans; identifies interagency standards for contaminant levels in vegetation, surface, and groundwater; and implements BMPs to control sedimentation and contaminant release. Similarly, the Targhee National Forest Plan also includes GRSG protection measures for phosphate development.

Closures or stipulations can directly or indirectly influence GRSG and their habitat. **Table 2-2** lists the acres that are open and closed to non-energy solid minerals leasing that contain GRSG habitat in the decision area for this LUPA/EIS. Figures at the end of this chapter illustrate areas that are open and closed to non-energy solid minerals leasing that contain GRSG habitat in the decision area for this LUPA/EIS.

Split-Estate Minerals

Split-estate refers to land conveyances in which the US retained the mineral estate, but transferred away the surface ownership. The Idaho and Southwestern Montana sub-region LUPs identify split estate lands. There are no goals, objectives, or management actions in the LUPs for split estate mineral activities to protect GRSG and their habitat. BLM management of split estate mineral activities can directly or indirectly influence GRSG and their habitat.

Travel Management

Comprehensive travel management planning addresses all resource use aspects (such as recreational, traditional, casual, agricultural, commercial, and educational) and accompanying modes and conditions of travel on BLM- and Forest Service-administered lands. Most of the LUPs for BLM-administered lands in Idaho lack specific travel management goals, objectives or management actions directly related to GRSG and their habitat. The Dillon LUP in southwestern Montana completed comprehensive travel management concurrent with the LUP revision in 2006.

Travel management at the land use plan level is primarily expressed as allocations for areas that are “open”, “closed”, or “limited” to motorized vehicle use. The limited travel designation is either expressed as “limited to designated routes” or “limited to existing roads and trails”. The category of “limited to existing roads and trails” is the basic travel restriction for travel management until detailed implementation level travel plans are completed to designate routes for use or non-use. Within the Idaho and Southwestern Montana sub-region, all travel designations are present. Because motorized vehicle use and interest varies by area, the Idaho and Southwestern Montana sub-region LUPs vary in their identification

of lands designated as open, closed, and limited to designated routes for motorized vehicle use.

BLM and Forest Service management of motorized travel can directly or indirectly influence GRSG and their habitat. **Table 2-2** lists the acres of motorized travel designations that contain GRSG habitat in the decision area for this LUPA/EIS. Figures at the end of this chapter illustrate motorized travel designations that contain GRSG habitat in the decision area for this LUPA/EIS.

Recreation

Recreation management involves identifying recreation areas and the types of activities allowed in the recreation areas. It also involves issuing SRPs. Within the Idaho and Southwestern Montana Sub-region, the BLM manages for both developed and dispersed recreation, and issues SRPs for a variety of recreation activities.

Some Idaho and Southwestern Montana sub-region LUPs identify special recreation management areas (SRMAs). Anything not delineated as an SRMA is an extensive recreation management area (ERMA). Actions within ERMAs are generally implemented directly from LUP decisions and do not require activity-level planning. LUP decisions include recreation management objectives for all ERMAs.

SRPs are authorizations that allow specified recreational uses of BLM- and Forest Service-administered land and water for a certain period of time. They are issued in order to manage visitor use, protect natural and cultural resources, and provide a mechanism to accommodate commercial recreational uses. Objectives of the BLM and Forest Service recreation permitting system are to satisfy recreational demand within allowable use levels while minimizing adverse resource impacts and user conflicts. In issuing recreation permits, the BLM and Forest Service authorize permit holders use of the lands and/or related waters for permitted purposes, subject to the terms and conditions of the permit. Recreation permits are managed in a manner that is consistent with management objectives.

Most recreation management resource programs in the Idaho and Southwestern Montana Sub-region LUPs contain no specific types of recreation area management or SRP restrictions directly related to GRSG and their habitat. Depending on the management of recreation areas and issuance of SRPs, they can directly or indirectly influence GRSG and their habitat. **Table 2-2** lists the acres of recreation areas that contain GRSG habitat in the decision area for this LUPA/EIS. Figures at the end of this chapter illustrate recreation areas that contain GRSG habitat in the decision area for this LUPA/EIS.

Recreation and travel management: There would be no new restrictions to SRPs in the decision area and SRPs would be considered on a case-by-case basis. Measures would be considered to minimize impacts on important resources or resource values. Cross-country motorized travel would be allowed in open areas (**Table 2-2**). Under current policy, the need for permanent or seasonal road closures is evaluated during travel management planning. Route and trail modifications (new or existing) are considered on a case-by-case basis. Upgrades to existing roads are allowed on a case-by-case basis subject to site-specific



environmental review. The need for restoration of unauthorized routes is identified during the implementation level travel management process or on a case-by-case basis. Summer motorized use on Forest Service-administered lands within the planning area is limited to roads, trails, and areas that have been designated through a transportation planning process.

Range Management

Idaho and Southwestern Montana sub-region LUPs provide for the management of rangeland resources and land health standards through the livestock grazing program. With the exception of the Dillon LUP, where watersheds assessments have occurred and GRSG-specific management changes have been incorporated into management, many of the LUPs lack specific range management goals, objectives, or management actions directly related to GRSG and their habitat. However, the BLM is required to meet or make progress toward meeting land health standards. To the extent that land health standards are met and provide GRSG habitat, indirect benefits to GRSG may occur. Livestock grazing management objectives and actions listed in the LUPs mostly fall into three categories:

1. AUM allocations or objectives for future allocations
2. Vegetation treatment/vegetation condition objectives
3. Range developments

It is typical for livestock grazing areas to contain sagebrush habitat. The Idaho and Southwestern Montana sub-region LUPs vary in their designation of areas available for grazing, and identification of allotment-specific grazing management practices (such as use of fences and location of water developments) and livestock forage amounts based on monitoring and assessment information, as well as constraints and needs related to other resources. Land health conditions and wildlife habitat are monitored and/or assessed as part of the grazing management program. Most objectives and actions are geared towards maintenance and improvement of vegetation condition, and therefore are compatible with GRSG habitat management. The BLM and Forest Service set AUMs, season of use, and grazing management strategies through the permit renewal process and adjust these as needed to meet resource objectives.

Because livestock grazing is site-specific, the LUPs being amended by this LUPA/EIS vary in their criteria for issuing grazing permits and establishing stipulations. However, the presence of natural resources, such as sagebrush habitat, is typically examined before issuing grazing permits.

Within the Idaho and Southwestern Montana sub-region, areas are designated as open and closed to livestock grazing. Depending on the purpose of a closure, it can directly or indirectly influence GRSG and their habitat. Similarly, the level of use of areas open to livestock grazing can directly or indirectly influence GRSG and their habitat. **Table 2-2** lists the acres that are open and closed to grazing that contain GRSG habitat in the decision area for this LUPA/EIS. Figures at the end of this chapter illustrate areas that are open and closed to grazing that contain GRSG habitat in the decision area for this LUPA/EIS.

All permits/leases on BLM- and Forest Service-administered lands are required to meet or make progress towards meeting standards defined in the BLM Idaho and Montana Standards for Rangeland Health and Guidelines for Livestock Grazing Management. Standards 4 (Native Plant Communities), 5 (Seedings), 6 (Exotic Plant Communities, Other than Seedings), and 8 (Threatened and Endangered Plants and Animals) promote or maintain healthy, productive, and diverse wildlife habitats and vegetation communities. Review of attainment/progress towards standards would be made when permits/leases were up for renewal, on a ten-year cycle. Modifications to grazing permits/leases would be made as necessary at this point to conform to the Guidelines for Livestock Grazing Management. On both BLM- and Forest Service-administered lands, temporary adjustments can be made annually to livestock numbers, the number of AUMs, season of use, and other aspects of grazing within the terms and conditions of the permit based on the permittees livestock operation and/or an evaluation of a variety of forage and resource site-specific conditions. Forest Service Livestock grazing program/policy direction allows the BLM and Forest Service to make changes to livestock grazing in response to drought conditions. Changes may include adjusting livestock numbers based on available forage or shortening the season of use.

The focus in riparian areas and wetlands would be to manage, maintain, protect, and restore riparian and wetland areas to the proper functioning condition.

Range improvements, including fences and vegetation treatments, as well as water developments would be considered on a case-by-case basis, taking into consideration impacts on other resources and resource values. Fences would be constructed to protect and benefit livestock and wildlife, but no specific LUP provisions are included for GRSG.

Wild Horse and Burro Management

Wild horse and burro management involves establishing herd management areas (HMAs) in herd areas (HA) or Wild Horse Territories for BLM- and Forest Service-administered lands, respectively, in order to manage wild horses and/or burros for the long term. Overall management direction is to manage for healthy populations to achieve a thriving natural ecological balance with respect to wildlife, livestock use, and other multiple uses. All HMAs are managed for the appropriate management level (AML). It is typical for HMAs to contain sagebrush habitat. The wild horse and burro management resource programs in the Idaho and Southwestern Montana Sub-region LUPs contain no specific types of wild horse and burro management directly related to GRSG and their habitat. There are no Forest Service Wild Horse Territories in the sub-region.

BLM management of HMAs can directly or indirectly influence GRSG and their habitat. **Table 2-2** lists the acres of HMAs that contain GRSG habitat in the decision area for this LUPA/EIS. Figures at the end of this chapter illustrate HMAs that contain GRSG habitat in the decision area for this LUPA/EIS.

Special Designations

Special designations include areas of ACECs, Wilderness, WSAs, National Historic Trails, Wild and Scenic Rivers, National Monuments, and National Conservation Areas.



Areas of Critical Environmental Concern

ACECs are special management areas designated by the BLM to protect significant historic, cultural, or scenic values; fish and wildlife resources; natural process or systems; and/or natural hazards. LUPs outline restrictions to protect the special values for which the ACEC was designated. Most of the Idaho and Southwestern Montana Sub-region LUPs lack specific ACEC management goals, objectives, or management actions directly related to GRSG and their habitat.

ACECs differ from other special designations in that designation by itself does not automatically prohibit or restrict other uses in the area. The management of ACECs is focused on the resource or natural hazard of concern. These restrictions include, for example, NSO, ROW exclusion or avoidance, and locatable mineral withdrawal recommendations, as well as other use constraints. A list of the use restrictions that apply to each ACEC is provided in **Appendix H**.

Depending on ACEC restrictions, they can directly or indirectly influence GRSG and their habitat. **Table 2-2** lists the acres of ACECs that contain GRSG habitat in the decision area for this LUPA/EIS. Figures at the end of this chapter illustrate ACECs that contain GRSG habitat in the decision area for this LUPA/EIS.

ACECs: 53 existing ACECs containing 325,000 acres of occupied GRSG habitat would be maintained.

Wilderness

In accordance with the Wilderness Act, Wilderness is managed to preserve wilderness character, composed of the following qualities: untrammeled; natural; undeveloped; solitude or primitive and unconfined recreation; and unique, supplemental, or other features. Wilderness is managed in accordance with BLM Wilderness Manual 6340 and Forest Service Manual 2300. The Wilderness resource programs in the Idaho and Southwestern Montana Sub-region LUPs contain no specific types of management directly related to GRSG and their habitat.

Depending on the restrictions, they can directly or indirectly influence GRSG and their habitat. Table 2-2 lists the acres of Wilderness that contain GRSG habitat in the decision area for this LUPA/EIS.

Wilderness Study Area

WSAs are at least 5,000 acres in size, generally appear to have been affected primarily by the forces of nature, provide outstanding opportunities for solitude or primitive and unconfined types of recreation, and often have special qualities, such as ecological, geological, educational, historical, scientific, and scenic values. WSAs are managed so as not to impair their suitability for preservation as wilderness under BLM Manual 6330, Management of Wilderness Study Areas. The WSA resource programs in the Idaho and Southwestern Montana Sub-region LUPs contain no specific types of management directly related to GRSG and their habitat.

BLM Manual 6330 requires that no degradation of wilderness values occurs until Congress officially designates the WSA as wilderness or releases it from further wilderness consideration. WSAs are managed to a “non-impairment” standard that excludes surface disturbing activities and permanent structures that would diminish the natural character of the area. LUPs can attach additional restrictions to WSAs to provide greater protection to WSAs.

Depending on WSA restrictions, they can directly or indirectly influence GRSG and their habitat. **Table 2-2** lists the acres of WSAs that contain GRSG habitat in the decision area for this LUPA/EIS.

Wildlife and Special Status Species

The BLM and Forest Service manage lands with habitat for wildlife and special status species, such as GRSG. With the exception of the Dillon LUP, where GRSG specific management objectives are incorporated into watershed assessments, most of the LUPs lack specific goals, objectives, or management actions directly related to GRSG and their habitat. However, most LUPs provide goals or objectives related to maintaining or improving habitats, including those used by GRSG, and contain language related to providing habitat for federally listed or candidate species. Several LUPs require seasonal restrictions and/or buffers in GRSG habitats, but these are generally based on outdated GRSG guidelines and do not reflect current science. In addition, these restrictions are inconsistent among plans for times, distances, and crucial habitat periods for GRSG. **Appendix G** provides a more detailed breakdown of wildlife and special status species management that applies directly to GRSG habitat for the Idaho and Southwestern Montana Sub-region LUPs.

2.6.2 Alternative B

Management under Alternative B would focus on restrictions on resource uses and protection for and enhancement of existing sagebrush habitat. BLM and Forest Service would apply a three percent surface disturbance cap, as recommended in the NTT report (NTT 2011) to anthropogenic disturbances (not including fire) in PPMAs.

Greater Sage-Grouse Mapping and Habitat Designation

This alternative would designate all occupied GRSG habitat into two categories for management – PPMAs and PGMAs. Acreages of each management area are shown in **Table 2-2**. PPMAs comprise areas that have been identified as having the highest conservation value to maintaining sustainable GRSG populations. These areas would include breeding, late brood-rearing, and winter concentration areas. These areas have been identified by the BLM in coordination with respective state wildlife agencies. PGMAs comprise areas of occupied seasonal or year-round habitat outside of PPMAs. These areas have been identified by the BLM in coordination with respective state wildlife agencies.

GRSG conservation measures in *A Report on National Greater Sage-Grouse Conservation Measures* (NTT 2011) were used to form BLM management direction under Alternative B. The NTT was formed in August 2011 with an objective to serve as a scientific and technical forum to:



- Understand current scientific knowledge related to GRSG
- Provide specialized sources of expertise not otherwise available
- Provide innovative scientific perspectives concerning management approaches for GRSG
- Provide assurance that relevant science is considered, reasonably interpreted, and accurately presented, and that uncertainties and risks are acknowledged and documented
- Provide science and technical assistance to the Regional Management Team and Regional Interdisciplinary Team, on request
- Articulate conservation objectives for the GRSG in measurable terms to guide overall planning
- Identify science-based management considerations for the GRSG (e.g., conservation measures) that are necessary to promote sustainable GRSG populations, and which focus on the threats (75 FR 13910) in each of the Management Zones⁷

Conservation measures in the report focus on GRSG PPH, which have the highest conservation value to maintaining or increasing GRSG populations. Several measures also apply to GRSG PGH, which is occupied (seasonal or year-round) GRSG habitat outside of PPH in Idaho, and is suitable or seasonal habitat that may not be occupied outside of PPH in Montana.

Under Alternative B, PPMAs and PGMAAs would be designated and would be based on previously identified PPH and PGH in Idaho and Core areas in Montana (see **Figure 2-2**). PPH and PGH in Idaho are based on a model incorporating GRSG breeding bird density and lek connectivity models, informed with additional ancillary broadscale habitat data, seasonal habitat maps, connectivity information, expert opinion, population persistence model, local priority areas and agriculture and conifer filters (Makela and Major 2012). In Montana, PPH was delineated based on MFWP modeling of GRSG Core areas using a model based on male lek attendance and refined with seasonal habitat, telemetry, connectivity information and field review.

The delineation of these areas is thoroughly described in **Appendix I**.

Wildfire

Fuels treatments under Alternative B would be designed to protect sagebrush ecosystems by maintaining sagebrush cover, applying seasonal restrictions, protections for winter range, and requiring use of native seeds. Post-fuels treatments and ESR/Burn Area Emergency Rehabilitation (BAER) management would be designed to ensure long-term persistence of

⁷ Identified in the WAFWA Conservation Strategy (Stiver et al. 2006).

seeded areas and native plants. BLM and Forest Service would prioritize suppression in PPMAs and would prioritize suppression in PGMA where fires threaten PPMAs.

Lands and Realty

This alternative would preserve valid existing authorizations, which include any leases, claims, or other use authorizations established before a new or modified authorization, change in land designation, or new or modified regulation is approved. Existing fluid mineral leases are managed through Conditions of Approval (COA).

Under Alternative B, BLM and Forest Service would retain public ownership of PPMAs with limited exceptions and would seek to acquire lands to benefit GRSG habitat. All PPMAs would be exclusion areas for ROWs and special use authorizations (SUAs), and PGMA would be avoidance areas for ROWs and SUAs. In addition, BLM and Forest Service would be required to co-locate new ROWs or SUAs with existing infrastructure and the agencies would aim to remove, bury, or modify existing power lines in PPMAs.

Minerals

PPMA would be closed to fluid mineral leasing, non-energy leasable mineral leasing, and mineral material sales, as well as found unsuitable for surface mining of coal and recommended for withdrawal from locatable mineral entry. In addition, the BLM and Forest Service would apply mandatory BMPs as conditions of approval on operating plans associated with existing mineral leases.

Travel Management

Motorized travel would be limited to existing roads, primitive roads, and trails within PPMAs. Management actions would also aim to reduce new route construction and restore (to habitat) roads, primitive roads, and trails not designated in travel management plans.

Range Management

Under Alternative B, the same acreage would be open to grazing as under Alternative A. However, BLM and Forest Service would implement a number of management actions in PPMAs to incorporate GRSG habitat objectives and management considerations into livestock grazing management. These include, but are not limited to, completion of BLM Land Health Assessments, consideration of grazing methods and systems to reduce impacts on GRSG habitat, improved management of riparian areas and wet meadows, evaluation of existing introduced perennial grass seedings, water developments, and structural range improvements, BMPs for West Nile Virus, and fence marking.

Special Designations

No additional ACECs would be designated under Alternative B.

2.6.3 Alternative C

During scoping for the Idaho and Southwestern Montana Sub-region GRSG LUPA/EIS, individuals and conservation groups submitted management direction recommendations for protection and conservation of GRSG and their habitat. One proposed solution identified



by the public focused on the complete removal of livestock grazing from the landscape using the rationale that livestock grazing is a causal factor for weed spread, subsequent increased fire frequency, loss of native species, and loss of microbiotic crusts. As a result, removal of livestock grazing would remove these sources of GRSG habitat degradation from the landscape. Similar to Alternative B, the BLM and Forest Service would apply a three percent surface disturbance cap on anthropogenic disturbances (not including fire) in PPMAs. Most other management within this alternative would be the same as described for Alternative A.

Management under Alternative C would focus on removal of livestock grazing from all occupied GRSG habitat on BLM- and Forest Service-administered lands to conserve and enhance GRSG habitat. Other management actions include identifying occupied habitats and BLM ACECs as ROW exclusion areas and closing all occupied habitat to fluid mineral leasing. Under Alternative C, the BLM would designate 39 new ACECs. Other management would be similar to Alternative A.

Greater Sage-Grouse Mapping and Habitat Designation

This alternative would designate all occupied GRSG habitat as PPMAs. This represents the sum of PPMA and PGMA under Alternative B (**Figure 2-3**). The acreage of PPMA is shown in **Table 2-2**.

2.6.4 Alternative D

Alternative D is the Idaho and Southwestern Montana Sub-region's adjustments alternative, which emphasizes balancing resources and resource use among competing human interests, land uses, and the conservation of resources. This alternative incorporates adjustments to the NTT Report recommendations (Alternative B) to respond to sub-regional conditions and management in order to meet the needs of ongoing programs and land uses. The alternative was created using input from BLM, Forest Service, and Cooperating Agency interdisciplinary teams throughout the sub-region.

Under Alternative D, the BLM and Forest Service would require no net unmitigated loss of PPMAs instead of a disturbance cap. PPMAs would be avoidance and exclusion areas for wind and solar development (see **Table 2-2**). New authorizations for the following uses would not be allowed in PPMAs: transmission facilities (greater than 50kV), wind energy testing and development, commercial solar development, commercial geothermal development, nuclear development, oil and gas development, mineral development, airports, and ancillary facilities associated with any of the aforementioned development; paved roads and graded gravel roads, landfills, and hydroelectric projects. Communication sites would be allowed. PPMA and PGMA would be ROW avoidance areas.

The following are examples of ROWs that could be required in PPMA:

- New or additional distribution line to a community, private residence, ranch, or farm
- Certain authorizations of low concern, like an apiary
- Buried fiber-optic line or similar

- Construction of a new transmission line within an existing designated utility corridor
- Communications facility

Habitat restoration and vegetation management would be similar to Alternative B, though with additional measures to prioritize vegetation rehabilitation, incorporate design features that would improve the success of rehabilitation projects, and strategically plan for wildfire suppression.

Wildland fire management under Alternative D would be similar to Alternative B with additional management flexibility and guidance incorporated to tailor management to specific vegetation communities. BLM and Forest Service would prioritize wildfire suppression pre-planning and would consider targeted grazing to reduce fine fuels in PPMAs.

Travel and transportation management under Alternative D would be similar to Alternative B, though the travel system would be designed and designated to minimize adverse effects on GRSG; that is, it would designate or design routes to direct use away from sensitive areas and still provide for high-quality and sustainable travel routes and administrative access, legislatively mandated requirements, and commercial needs. Open play areas would remain open to OHV use, but these do not occur in GRSG habitat.

Livestock grazing management under Alternative D would prioritize completion of BLM land health assessments in PPMAs, and BLM and Forest Service would restrict authorizations of new water developments and would evaluate introduced perennial grass seedings. BLM and Forest Service would incorporate measures to reduce impacts from trailing and would consider the use of grazing to achieve fuels management objectives in PPMAs and PGMAAs.

No additional ACECs would be designated under Alternative D.

Greater Sage-Grouse Mapping and Habitat Designation

This alternative would designate all occupied GRSG habitat into three categories for management. Building upon the initial work to delineate priority and general habitat, this alternative recognizes that not all priority habitats provide the same level of habitat quality or conservation opportunities. PPMA as described in Alternative B has been subdivided into two categories – PPMA and PMMA. Based on available population and habitat information, as well as expert opinion, modeled PPMA contains the most important and relatively intact habitats and potential restoration areas for conserving GRSG. PMMA typically has a greater degree of disturbance (e.g., past fires), or other factors that leading to lower lek attendance by GRSG. PGMA represents the remaining occupied or potentially occupied habitat outside of PPMA or PMMA. All three management areas may include potential restoration areas. Acreages of each management area are shown in **Table 2-2**.



Updates to the Idaho Key Habitat Map: As the primary land steward of GRSG habitat in the state, the Idaho BLM has assumed the lead role in coordinating updates to and maintenance of the Idaho Sage-Grouse Habitat Planning Map. Annual updates to the map are based on changes in GRSG habitat due to wildland fires, vegetation treatments, or other factors across landownerships, though local accuracy varies depending on available information and expertise. Input is solicited from partners in GRSG conservation and is incorporated as appropriate. A final updated map is made available for internal and external distribution annually by approximately March 1, in accordance with the Conservation Plan for the Greater Sage-Grouse in Idaho.

Factors to consider during updates are applicable to land of any ownership status for which data or other information are available or provided to the BLM. If new data are unavailable or not provided by partners, the existing spatial data in the dataset would be retained:

- Wildfires that have occurred in the most recent calendar year fire season (2012) on BLM-administered land and on land not administered by the BLM.
- Vegetation management projects that have been completed within key habitat or potential restoration areas of GRSG planning areas. This includes activities such as burned area rehabilitation seeding projects, sagebrush thinning/reduction, conifer thinning/reduction, annual grasslands restoration, and new fuel breaks. However, only consider those treatment areas completed and where a change in habitat classification has occurred (e.g., from annual grassland to perennial grassland and from perennial grassland to key habitat). Areas planned for treatment or in the process of treatment (e.g., cheatgrass chemical treatment is completed, but seeding is pending) should not be included until a change in habitat category is observed.
- Changes in habitat status resulting from vegetation succession, such as perennial grasslands that have transitioned to key habitat due to increased sagebrush cover.
- Habitat mapping errors or omissions that have been identified in the most current Sage-Grouse Habitat Planning Map and other edits recommended by Sage-Grouse conservation partners, as appropriate.
- Since the Idaho Sage-Grouse Habitat Planning Map is intended for use by all conservation partners in Idaho, it is crucial that we maintain a seamless coverage across landownerships where possible. Therefore, updates should be based on vegetation boundaries only, using best available information and professional judgment. Uncertainties in map accuracy for certain areas should be documented in the metadata as appropriate.
- BLM uses a 10-acre minimum polygon for wildfires when editing the habitat map. For vegetation treatments, a minimum polygon size is not specified here, in order to accommodate projects with smaller footprints. For sagebrush or other vegetation patches (e.g., key habitat, perennial grassland, annual grassland, and conifer encroachment), delineate habitat to the extent data or other information

(i.e., observations) are available, recognizing that some entities may have more recent, finer resolution data than others.

- Areas that have recently burned, for which the field has no information as to habitat status, should be temporarily classified as “recent burn.” The general habitat status in these areas should be documented the following field season if possible, in preparation for the next map update.
- GRSG habitat polygon types that are subject to these updates are key habitat, perennial grassland, annual grassland, and conifer encroachment potential restoration areas.
 - Key habitat includes areas of generally intact sagebrush that provide GRSG habitat during some portion of the year.
 - Perennial grassland can be reclassified as key habitat once average sagebrush canopy cover is at least 10 percent. The 10 percent minimum is used in order to encompass likely nesting and winter habitat. Productive nesting habitat generally exhibits 15 to 25 percent sagebrush cover; winter habitat exhibits greater than 10 percent cover (Connelly et al. 2000; Stiver et al. 2010).
 - Annual grassland areas may be reclassified as perennial grassland once a restoration, fuels treatment, or related project, such as an emergency stabilization and burned area rehabilitation seeding, is considered successful (i.e., seeded perennial species have successfully become established).
 - Conifer encroachment areas may be reclassified as key habitat following treatment of conifers if sagebrush cover is at least 10 percent and there is a perennial understory. They can also be reclassified as perennial grasslands if native perennial herbaceous species are dominant or if an associated restoration seeding is successful.
- New vegetation mapping techniques or technologies that more accurately represent vegetation types or conditions on the landscape may be considered, subject to coordination between conservation partners.

Greater Sage-Grouse Habitat Management Objectives

Table 2-5, Mid-Scale Indicators and Suitability Characteristics for GRSG Habitat, describes desired habitat characteristics at the broader landscape scale, such as across GSG population or subpopulation areas and could also be applicable to the GRSG planning sub-region in general.

Table 2-6, Fine-Scale Indicators Suitability Characteristics for GRSG Seasonal-Use Areas, describes desired general habitat characteristics of seasonal use areas within GSG home ranges. These occur within the broader population and sub-population areas.



Table 2-5
Mid-Scale Indicators and Suitability Characteristics for GRSG Habitat

Habitat Indicators	Indicator Measurement	Relationship to Habitat Suitability
Habitat Availability	The amount of sagebrush habitat in the area.	The more sagebrush habitat relative to potential habitat, the greater the area suitability.
Patch Size and Number	The average size of habitat patches and the number of patches within the area.	Generally, the larger and more contiguous the habitat patches relative to the area, the greater the suitability of that area.
Patch Connectivity	The average distance from one habitat patch to the nearest similar patch within the area	As the average distance between GRSG habitat patches in the area decreases, suitability increases.
Linkage Areas	Percent shrub cover in relation to tree or grass/forb cover of areas between habitat patches through which GRSG move.	As linkage areas between habitat patches increase in shrub cover rather than tree or grass/forb cover, habitat suitability increases. Presence of anthropogenic features between patches also decreases linkage area suitability.
Landscape Matrix and Edge Effect	The amount of edge in contact with plant communities or land uses with positive or negative influences on the habitat patch.	As the amount of sagebrush edge in contact with plant communities or land uses that positively influence shrub land patch habitat increases, the landscape matrix and edge suitability increase.
Anthropogenic Disturbances	The fragmentation of contiguous sagebrush patches in the area through land use changes and infrastructure development. Measured as the number, length, or area (or area of influence) of embedded anthropogenic features per unit patch area.	As the number and intensity of anthropogenic features within the habitat patches in the area decrease, suitability increases.

Source: Stiver et al 2000; Connelly 2013 unpublished

Table 2-6
Fine-Scale Indicators Suitability Characteristics for GRSG Seasonal-Use Areas

Habitat Indicators	Indicator Measurement	Habitat Suitability Characteristics
Seasonal Habitat Availability	The amount of sagebrush shrubland in seasonal use areas. The amount of other forb-rich habitats in summer/fall seasonal use areas.	The more sagebrush shrubland within seasonal use areas in the home range the greater the area suitability. Other forb-rich habitats in summer/fall seasonal use areas are available.
Seasonal Use Area Connectivity	The extent of sagebrush connectivity between seasonal use areas.	As areas between seasonal use areas increase in sagebrush cover, habitat suitability increases.

Table 2-6
Fine-Scale Indicators Suitability Characteristics for GRSG Seasonal-Use Areas

Habitat Indicators	Indicator Measurement	Habitat Suitability Characteristics
Anthropogenic Disturbances	The disruption of movement between or use of seasonal use areas within a home range due to land use changes and infrastructure development. Measured as the number, length, or area of anthropogenic features within a home range area.	As the number and significance of anthropogenic features within a home range decrease, suitability increases.

Source: Connelly et al. 2000

Table 2-7, Fine-Scale Indicators Suitability Characteristics for GRSG Lek Sites, describes desired specific habitat characteristics at GRSG lek sites.

Table 2-8, Site-Scale Nesting and Early Brood-Rearing Habitat Characteristics, describes desired site-scale habitat characteristics of nesting and early brood-rearing habitats. Nesting, early brood-rearing, and leks comprise “breeding habitat.”

Table 2-9, Site-Scale Indicators and Suitability Characteristics for GRSG Summer Habitat , describes desired site-scale habitat characteristics of summer upland and riparian habitats.

Table 2-10, Site-Scale Indicators and Suitability Characteristics for GRSG Winter Habitat, describes desired site-scale habitat characteristics of winter habitats.

Table 2-7
Fine-Scale Indicators Suitability Characteristics for GRSG Lek Sites

Habitat Indicators	Indicator Measurement	Suitable Habitat Characteristics
Cover Availability	Lek has adjacent sagebrush cover in close proximity.	Adjacent sagebrush cover.
Proximity of detrimental land uses	The distance to land uses that have detrimental effects on lek use. Sonic and physical disturbances such as highways, railroads, and industrial parks are examples.	Detrimental land uses are not within 5 km of lek in non-migratory and 18 km of lek for migratory populations.
Proximity of trees or other tall structures	The presence of trees or other tall structures within line of sight of leks.	Trees or other tall structures are not within line of sight of lek and absent or uncommon within 3 km of the lek.

Source: Connelly et al. 2000



Table 2-8
Site-Scale Nesting and Early Brood-Rearing Habitat Characteristics

Habitat Indicators	Indicator Measurement	Habitat Suitability Characteristics	
		Arid Sites ¹	Mesic Sites ¹
Sagebrush Cover	Average percent cover for land cover type.	15 – 25 %	15 – 25 %
Sagebrush Height	Average sagebrush height for land cover type.	30 - 80 cm (12 – 30 inches)	40 – 80 cm (15 – 30 inches)
Sagebrush Shape ²	Most common sagebrush shape for land cover type	Spreading	Spreading
Perennial Grass and Forb Heights	Average maximum heights in land cover type.	≥ 18 cm (≥ 7 inches)	≥ 18 cm (≥ 7 inches)
Perennial Grass Cover	Average percent cover for land cover type.	≥ 10%	≥ 15%
Forb Cover	Average percent cover for land cover type.	≥ 5%	≥ 10%
Forb Availability	Number of preferred forbs in land cover type.	Good abundance and availability relative to ecological site potential	

Source: Connelly et al 2000

¹ Mesic and arid sites should be defined on a local basis; annual precipitation, herbaceous understory, and soils should be considered (Connelly et al 2000).

² Sagebrush plants that are more tree or columnar-shaped, with no or few lower branches, provide less protective cover near the ground than sagebrush plants with a spreading shape. Basin big sagebrush plants often have this columnar shape, as do other sagebrush species or subspecies that have been heavily browsed or rubbed. It is assumed that sagebrush communities in which the columnar shrub shape is predominant likely require more herbaceous cover to compensate, to provide adequate protection for nesting GRSG and young broods. Conversely, in suitable habitat, the spreading shape should be predominant; however, there may be a small proportion of columnar plants present.

Table 2-9
Site-Scale Indicators and Suitability Characteristics for GRSG Summer Habitat

Habitat Indicators	Metric Description	Habitat Suitability Characteristics	
		Upland Sagebrush Communities ¹	Riparian and Wet Meadow Communities
1. Sagebrush Cover	Average percent cover for land cover type	10 – 25%	
2. Sagebrush Height	Average sagebrush height for land cover type	40 – 80 cm (15 – 30 inches)	
3. Sagebrush Proximity	Food site has sagebrush cover in close proximity		Sagebrush cover is within 100 m of riparian or wet meadow foraging area.
4. Grass/Forb Cover	Average percent cover for land cover type	>15%	
5. Riparian/Wetland Stability	Functioning condition		Wetland or riparian area is in proper functioning condition
6. Forb Availability	Number and density of preferred forbs in land cover type	Good abundance, diversity and availability relative to ecological site potential	

Source: Connelly et al 2000

¹ In areas where agricultural fields provide the food resources the habitat indicators for protective cover apply.

Table 2-10
Site-Scale Indicators and Suitability Characteristics for GRSG Winter Habitat

Habitat Indicators	Metric Description	Habitat Suitability Characteristics
1. Sagebrush Cover	Average percent cover exposed above snow in wintering area.	10 – 30% exposed above snow
2. Sagebrush Height	Average height above snow in wintering area.	25 -35 cm (10 - 14 inches) exposed above snow

Source: Connelly et al. 2000

Adaptive Management

Adaptive management in Idaho would encompass the consideration of changes or trends in habitat and population indices. As is the case currently, Idaho BLM would have responsibility for updating and maintaining GRSG habitat information while population information would be updated and maintained by IDFG. Both parties would collaborate in an annual evaluation of the data in conjunction with the existing Idaho Sage-Grouse Advisory Committee's Technical Assistance Team (TAT) established under the 2006 Conservation Plan for the Greater Sage-Grouse in Idaho (Idaho Sage-Grouse Advisory Committee 2006). A qualified population ecologist or statistician would also be consulted as available. The TAT would provide a consensus report with recommendations to the appropriate BLM District Manager and Forest Supervisor. Follow up actions resulting from the recommendations would be implemented in accordance with the adaptive management triggers described below.

In general, GRSG habitat and population data would be utilized to determine net changes in habitat and/or population indices within GRSG population areas in the sub-region, as described in **Chapter 3**. These population areas include: East Central Idaho, Mountain Valleys Northern portion, Mountain Valleys Sand Creek portion, North Side Snake, Southwest Idaho, South Side Snake, Sawtooth, Bear Lake, and Weiser. Evaluating habitat and population trends by GRSG population area has merit in that the areas are large enough to generally encompass local populations but are of sufficiently small scale to allow for a more expedited evaluation of habitat and population trends. Use of population areas as the analysis frame also allows for a more efficient and timely response to causative population or habitat stressors. This scale of analysis also more readily reflects the suite of local threats (e.g., wildfire is more extensive in some population areas than others) than would larger geographic delineations but will necessitate additional population monitoring in areas where lek data are currently limited. (Note that adaptive management triggers below are equivalent to Forest Service standards.)

Habitat and population triggers were developed based on guidance and analysis suggested in Connelly 2000 and Garton 2011 and as described below.



Habitat Triggers

In *Guidelines to Manage Sage-grouse Populations and Their Habitat*, Connelly et al. (2000) suggested at least 80 percent of a seasonal habitat's area should reflect rangeland characteristics indicative of productive GRSG habitat as noted in the Guidelines. In the case of sagebrush, this suggests that at least 80 percent of nesting habitat should be in the range of 15 to 25 percent sagebrush canopy cover. Similarly, at least 80 percent of winter habitat should be between 10 to 30 percent canopy cover. The NTT Report (NTT 2011, pg. 6) suggested that a minimum range of 50 to 70 percent of priority habitat should be in sagebrush cover. For establishing a habitat loss trigger for adaptive management, an assumption was made that an overall loss of 20 percent of the sagebrush landscape within a population area was consistent with the published literature, and sufficiently conservative to allow for a management response. A loss of 10 percent of nesting or winter habitat were also selected as triggers, since these are especially important for population maintenance.

Population Triggers

In developing population triggers for Alternative D, concepts including decline in average lek attendance and decline in finite rate of population change presented in Alternative E were adopted with modification. In Alternative D, average maximum male count across all leks within a population area is used, rather than only leks associated with lek routes. Also, since availability of population data are limited for some areas, a range of 3 to 5 years was suggested, rather than the discrete 3 year timeframe suggested in Alternative E. Alternative D also allows for additional refinement of specific population metrics by a TAT.

Adaptive Management Triggers: Habitat and population triggers for each respective population area would be as follows:

Habitat Triggers: During the life of the plan, if one or more of the following occur in a single event or cumulatively within a specific population area, relative to the 2011 baseline, all PMMAs within that population area would immediately be managed as PPMAs, with associated restrictions, exclusions and other applicable measures described in the ROD.

1. A net 20 percent loss in mid-late sagebrush cover anywhere within the population area
2. A net 10 percent loss of nesting habitat within the population area
3. A net 10 percent loss of winter habitat within the population area

Population Triggers: During the life of the plan, if the following triggers occur, all PMMAs within that population area would be managed as PPMAs, with associated restrictions, exclusions and other applicable measures described in the ROD.

1. A net 20 percent decline in the average maximum count of males per lek within a consecutive 3 to 5 year period, relative to the appropriate 3 to 5 year baseline average (e.g., 2009-2011)

2. A finite rate of population change (λ) significantly below 1.0 within the population area for a given 3 to 5 year period, relative to the appropriate 3 to 5 year baseline average (e.g., 2009-2011)

Long Term Coordination: GRSG within the Idaho and Southwestern Montana sub-region share some important habitats that transcend state boundaries. Therefore, over the long term, the BLM, Forest Service, IDFG, USFWS, and other conservation partners would collaborate with counterparts in adjacent states (Oregon, Nevada, Utah, Montana, Wyoming) in GRSG MZs IV and II to evaluate GRSG habitat and population status and trends within the broader USFWS PACs and make appropriate recommendations for GRSG conservation at broader scales. Coordination would also occur with appropriate academic institutions to develop consistent population and habitat monitoring approaches that facilitate GRSG conservation at the MZ scale.

Mitigation

The goal of the agency developed alternative is to provide for no unmitigated loss to occupied GRSG habitat. “No unmitigated loss” is described as follows:

Continued losses of GRSG habitat through natural events such as wildfire are expected to continue. Therefore, it is incumbent on the BLM and Forest Service to minimize loss of habitat or habitat functionality arising from discretionary agency actions or authorizations.

The concept of “no unmitigated loss” includes a suite of actions that can be taken to off-set or restore direct and indirect disturbances to GRSG habitat. This includes conducting restoration or other appropriate actions (e.g., fence marking to reduce collision risk, and avian predator diverters) in advance of or concurrent with disturbances caused by anthropogenic activities that disrupt GRSG behavior and/or remove habitat or degrade habitat quality or functionality.

These actions include:

- Siting activities in landscapes that do not provide habitat currently and lack habitat restoration potential. Rejecting use applications or nominations that cannot be adequately mitigated and where the agencies have discretion to do so.
- Applying Required Design Features and mitigation measures adequate to offset immediate and long-term effects of the disturbance

Mitigation of anthropogenic uses can be accomplished by specific measures that may include:

- On-site measures to minimize disturbance footprints and restoration of disturbed areas concurrent with project implementation (such as revegetation and weed treatments while burying power lines)



- Off-site mitigation agreements developed cooperatively with the state wildlife and conservation agencies
- Prescribed mitigation ratios to offset the immediate and long-term effects of the disturbance
- Habitat restoration in advance of disturbance
- Coordination with the state(s) on required restoration (disturbance credits)

Mitigation of natural disturbances may include:

- Actions to prevent or reduce human-caused wildfire ignitions
- Treatments (e.g., fuel breaks), to prevent and reduce the spread of wildfires and to augment fire suppression tactics
- Restoration treatments in areas burned (including post-fire uses, such as grazing management)
- Treatments to control the spread and dominance of cheatgrass
- Habitat restoration or enhancement treatments, such as seeding/planting of perennial grasses, forbs, shrubs to improve habitat conditions

Lands and Realty

Under Alternative D, BLM and Forest Service would preserve valid existing authorizations, which include any leases, claims, or other use authorizations established before a new or modified authorization, change in land designation, or new or modified regulation is approved. Exploration and development activities on mineral leases are managed through COAs.

2.6.5 Alternative E

In December 2011, Secretary of the Interior Ken Salazar invited western governors to create state-specific GRSG conservation plans to provide for the needs of GRSG and to help preclude the need to list the species. In response to this invitation, Governor Otter of Idaho issued Executive Order 2012-02 on March 9, 2012, establishing the Governor's Sage-Grouse Task Force. The task force was a diverse group of stakeholders comprised of representatives from local Sage-Grouse working groups, conservation interests, state and local officials, and industry. The task force was charged with providing recommendations on actions for developing a state-wide regulatory mechanism to preclude the need to list the species under the ESA.

On June 15, 2012, the task force delivered its recommendations to Governor Otter. He used the recommendations to develop a draft alternative for the State of Idaho for incorporation into the BLM and Forest Service LUPA, which was submitted to the BLM and Forest Service for consideration on September 5, 2012. The State of Idaho has further refined aspects of the governor's alternative and submitted additional clarification and management

actions to the BLM and Forest Service for consideration on July 1, 2013. Appendix D contains a more thorough description of the development of this alternative and contains submissions and correspondence relevant to it.

Alternative E was based on inputs from the Idaho Governor's Office (for federal lands within Idaho) and the Utah Governor's Office (for the portion of the Sawtooth National Forest in Utah that would be analyzed within the Idaho and Southwestern Montana Sub-region). Lands in Montana would be managed under Alternative A for this alternative. Alternative E focuses primarily on management for the threats of wildfire, invasive species, and large infrastructure projects; secondarily, it focuses on management for the threats of improper livestock grazing management and related infrastructure, West Nile virus, and recreation. It recommends use of an adaptive management approach and implementation of triggers or thresholds that adjust zone criteria.

The actions described in this alternative for Idaho build on, supplement, or replace the Idaho 2006 State Plan and LWG plans. The actions identify habitat zones, adaptive regulatory triggers, and concrete best management practices for primary threats (e.g., wildfire, invasive species, and infrastructure) and some secondary threats (e.g., recreation, improper livestock grazing, and West Nile virus), as identified by the Forest Service necessary to preclude a listing. (For the sake of completeness, Idaho's 2006 plan is incorporated herein by reference.)

Activities not addressed by this alternative, such as predation issues, will continue to be guided by the 2006 State Plan, LWG plans, or relevant federal resource management plans. This alternative would replace land management plan direction inconsistent with the GRSG management actions described, unless otherwise prescribed by statute, regulation or valid existing authorizations. This alternative would retain land management plan direction that is not inconsistent with actions described to provide guidance for projects and activities within the Sage-Grouse Management Area (SGMA). Further details are provided in **Appendix D**.

In Montana, Governor Bullock established the Greater Sage-Grouse Habitat Conservation Advisory Council on February 2, 2013, by Executive Order. The purpose of the council is to gather information, furnish advice, and provide the governor with recommendations on policies and actions for a state-wide strategy. The council will provide GRSG conservation recommendations by October 2013, and the governor will finalize a Montana Greater Sage-Grouse Habitat Conservation Strategy by January 31, 2014. The BLM will use the strategy to inform the proposed alternative for this plan, to the extent possible.

This alternative includes a measurable population objective (e.g., population within the CHZ), and uses monitoring to ensure that objective is met, and sets metrics that trigger changes in practices or review of current practices to ensure the conservation objective is met long-term. Specifically, the use of four separate Conservation Areas (CAs), described below, in which the adaptive triggers are individually applied adds an increased level of sensitivity to change.



This alternative includes the establishment, through Idaho Governor's Executive Order, of an Implementation Task Force following the implementation model based on the State's success in developing a federal rule for the management and conservation of the inventoried roadless areas within Idaho (73 FR 61,456, October 16, 2008).

Habitat restoration and vegetation management under Alternative E would focus on prioritizing conifer removal and restoring sagebrush and perennial grasslands. Native vegetation would be used for restoration to the extent practicable. In addition, invasive species would be controlled for three years after wildfire treatments. Alternative E provides guidance to reduce wildfire response time, create fuel breaks, and improve the wildfire suppression baseline. Targeted grazing would be allowed in all habitat management zones to reduce fine fuels and mitigate for the risk of wildfire.

This alternative emphasizes the need for livestock permittees to achieve the Idaho Rangeland Health Standards while also achieving flexibility and management predictability through the use of the state's adaptive construct, which respond to the COT Report.

Greater Sage-Grouse Mapping and Habitat Designation

In Idaho this alternative designates an SGMA that includes the entire known GRSG population in the State of Idaho. This alternative subdivides the SGMA into four individual CAs across the State: two north (Mountain Valleys, Desert) and two south (West Owyhee, Southern) of the Snake River.

Within each CA, occupied habitat in Idaho would be delineated into three management areas: CHZ, IHZ, and GHZ. Acreages of each habitat zone are shown in **Table 2-2**. These habitat zones have been described across all surface ownerships. The management guidance described would only apply to BLM- and Forest Service-administered areas within those habitat zones. The three proposed habitat zones represent a management continuum that includes at one end, a relatively restrictive approach aimed at providing a high level of protection to the most important CHZ, and on the other end, a relatively flexible approach for GHZ allowing for more multiple-use activities. While the IHZ contemplates greater management flexibility than in the CHZ, the overall quality and ecological importance of most of the habitat within this theme is more closely aligned with the habitat in the CHZ than in the GHZ. For the portion of the sub-region within Utah, Priority and General Habitats would be delineated, with the same definitions as under Alternative B.

The CHZ represents strongholds for GRSG populations in Idaho and is expected to support the highest breeding densities with approximately 65 percent of the known leks and 73 percent of the males in the state, encompassing approximately 5.68 million acres (4.9 million acres of BLM- and Forest Service-administered lands). Of the lands within the CHZ – 80 percent occur on federal land, 6 percent on State and the remaining 14 percent on private lands. The CHZ avoids development in PACs as new infrastructure development would be generally precluded with a process for limited exceptions, which responds to the COT Report. Generally, these areas are defined by the 25-50 percent breeding bird density; however, the state also designated areas below this threshold to capture areas with opportunities for successful habitat restoration. The intent of management within CHZ is to

implement the best management practices to conserve these areas maintaining the state's baseline population.

The IHZ is defined by the 75 percent breeding bird density areas and includes area of value for migration corridors, connectivity among breeding areas, and long-term persistence of each of the two key metapopulations of GRSG in Idaho. The IHZ is approximately 4 million acres (2.7 million acres of BLM- and Forest Service-administered lands) including approximately 25 percent of the known leks and is home to 22 percent of the males in Idaho. Additionally, the IHZ serves as an important buffer for loss of habitat in the CHZ due to wildfire.

GHZ encompasses approximately 5.45 million acres (3.5 million acres of BLM- and Forest Service-administered lands) and generally includes few active leks and fragmented or marginal habitat as well as habitat for two isolated populations for GRSG in the East Idaho Uplands and West Central Idaho. These two areas generally represent better habitat than the remainder of the GHZ; however, the isolated nature of these populations make it unlikely that they will contribute to the long term persistence of GRSG in the State of Idaho. This alternative does not propose any additional or special GRSG management direction as this management zone only represents approximately 5 percent of the state's population. Any proposed action within this management zone or any other management theme would still have to undergo a site-specific NEPA analysis.

A suite of management activities that may or may not occur within a given area are described in Table 2-18.

Greater Sage-Grouse Population Objectives

This alternative contains specific GRSG population objectives for Idaho critical to gauging the effectiveness of the approach. These population objectives would ensure an appropriately tailored response to significant fluctuations in habitat and population (e.g., wildfire), and provide the foundation from which to assess adaptive management.

These objectives are:

- Implement regulatory mechanisms that maintain and enhance GRSG habitats, populations and connectivity within the CHZ
- Stabilize GRSG habitats and populations by monitoring the effectiveness of the regulatory measures over time, primarily by minimizing habitat loss within the CHZ, and to a lesser extent within the IHZ

Approximately 95 percent of Idaho's known GRSG population is encompassed in the CHZ and IHZ. This would enable the State of Idaho to maintain a viable population of at least 65 percent of the GRSG leks for the foreseeable future.



Governor's Implementation Task Force

As part of implementing this alternative, the State of Idaho is proposing the development of a cooperative MOU between the BLM, Forest Service and State of Idaho to establish the State of Idaho as a cooperating agency during implementation of the final decision. This MOU would identify responsibilities of each agency. Included within the State of Idaho's responsibilities would be the issuance of an Executive Order establishing an Implementation Task Force to fulfill the State's roles and responsibilities under the MOU. This implementation model is based on the State's success in developing a federal rule for the management and conservation of the inventoried roadless areas within Idaho.

This Implementation Task Force would provide the Idaho Governor advice and counsel on subjects including:

- Analyzing the annual GRSG monitoring data to determine whether an adaptive management response is appropriate and necessary
- Provide input to BLM and Forest Service during the NEPA processes for on-the-ground infrastructure projects, including input and recommendations regarding potential mitigation
- Prioritize habitat restoration opportunities
- Other such activities aiding the implementation of the state's population objectives.

The Implementation Task Force would develop recommendations based on data and input provided by a science subcommittee led by the IDFG, and may solicit outside experts if necessary. Recommendations from the Implementation Task Force would be submitted to the Governor and, based on review and concurrence, these recommendations would be transmitted to the appropriate agency as part of the NEPA process.

This process recognizes that the ultimate decision involving public land management would remain the responsibility of the appropriate federal agency. While this collaborative aspect of the State's Alternative is essential to the overall implementation of the plan, the Implementation Task Force cannot replace or waive any legal obligations of the BLM or Forest Service, including government-to-government consultation with Indian Tribal Governments. Additional information regarding the Implementation Task Force is located in **Appendix D**.

Adaptive Management

The State of Idaho portion of this alternative contains an adaptive management strategy based on the monitoring of habitat and population data, allowing for management changes when necessary. The results of habitat and population monitoring would be collected and analyzed by the IDFG and presented to the Implementation Task Force for consideration. IDFG will continue to be responsible for collecting GRSG population data and compiling habitat data into useable forms.

Habitat and population data are utilized to determine change in habitat or population compared against a 2011 baseline within each CA. The triggers provide a regulatory backstop to prevent further loss and stabilize habitats and populations in the CHZ. The following adaptive triggers reflect dramatic shifts in population or habitat occurs based on an average over a 3-year period when compared to 2011 values. The triggers would be individually applied within each CA which adds an increased level of sensitivity to change. Two types of triggers are defined, and are referred to as hard and soft triggers.

The soft trigger is defined as:

- 10 percent decline in maximum number of males counted and a finite rate of change below 1.0, within CHZ or IHZ within a CA over a period of three years; when compared to the average finite rate of change from 2009-2011; or
- 10 percent loss of nesting and/or wintering habitat within CHZ or IHZ in a CA as compared to the 2011 baseline

The hard trigger is defined as:

- 20 percent decline in maximum number of males counted and a finite rate of change significantly below 1.0 within CHZ within a CA over a period of three years; or
- 20 percent loss in CHZ nesting and/or wintering habitat within CHZ and IHZ compared to the 2011 baseline
- If there is a 20 percent decline in males or 20 percent loss of nesting and/or wintering habitat in IHZ, it will be treated as a soft trigger

Based on the annual report prepared by IDFG and in conjunction with the MOU, each year the Implementation Task Force would provide the Idaho Governor a recommendation related to the adaptive management triggers. If the annual report indicates that a soft trigger has been tripped within a particular CA there is no required adaptive recommendation of the Implementation Task Force. A short description of potential recommendations to a soft trigger is included in Appendix D. If the annual report indicates that a hard trigger has been tripped within a particular conservation zone, the Implementation Task Force's decision to recommend the appropriate adaptive regulatory response is no longer discretionary and the following actions would occur:

- The IHZ within the applicable CA would be managed according to the management direction for the associated CHZ, primarily impacting the ability to consider infrastructure projects
- If the cause is related to wildfire or invasive species, the Implementation Task Force would recommend additional best management practices



- If a primary threat is not the cause for the decline, the Implementation Task Force would analyze secondary threats and recommend the appropriate management response

The Implementation Task Force would attempt to identify the cause of decline, and only where the primary threats (wildfire, invasive species and infrastructure) are not responsible for the decline would the Implementation Task Force analyze the secondary threats to the species. Additional information on the adaptive regulatory trigger framework is included in **Appendix D**.

Mitigation

As described in the Conservation Plan for Greater Sage-Grouse in Idaho (Idaho Sage-Grouse Advisory Committee 2006), the Sage-Grouse Advisory Committee commissioned a subcommittee to develop a framework for mitigation. This framework (see **Appendix D**) describes a mitigation process that could be included in the federal evaluation of infrastructure development projects through the involvement of the Implementation Task Force during NEPA site-specific analysis. The framework describes the general outline for a GRSG mitigation program in Idaho. This program would employ an “in-lieu fee” approach to mitigation through which a project developer would pay funds into an account managed by the mitigation program for performance of mitigation actions that provide measurable benefits for GRSG and their habitats within Idaho.

Mitigation would be applied to exempt within the CHZ. The criteria for exemption are:

- Is the project developed pursuant to a valid existing right?
- Is the project an incremental upgrade/capacity increase of existing development?
- For new development, can the project be reasonably accomplished outside the CHZ? Can the development co-locate with existing infrastructure to the maximum extent possible?
- Can the project proponent demonstrate the population trend for the species within the relevant Conservation Area is stable or increasing over a 3-year period?
- Will this project benefit the State of Idaho?

Wildfire

This alternative identifies the need to develop a consistent wildfire suppression plan that improves upon the current baseline. Close coordination with federal, state, and private firefighting personnel, local fire departments and local expertise including Rangeland Fire Protection Associations is crucial to continually improving strategies for initial attack and developing comprehensive fuel break strategies to minimize and reduce the size of wildfires threatening the CHZ and IHZ following ignition.

The emphasis for fuel break prioritization should be in areas within the Wildland-Urban Interface (WUI) where human life and safety are at risk.

The following tables (**Table 2-11**, Alternative E Suppression, **Table 2-12**, Alternative E Prevention, and **Table 2-13**, Alternative E Restoration) provide conservation measures to be incorporated into this alternative regarding prevention, suppression, and restoration activities. One crucial component of this is the utilization of grazing as an effective management tool in reducing fuel loading on BLM- and Forest Service-administered lands, particularly within areas of high fuel loading that are at high risk of wildfire threatening the CHZ and IHZ.

Land Use Authorizations (Infrastructure)

Infrastructure development would be guided by management actions specific to the habitat zone within which the infrastructure project is located:

- CHZ: New infrastructure generally precluded except for valid existing rights and/or or incremental upgrade and/or capacity increase of existing subject to some limitations. Notwithstanding this general limitation, the Governor's Alternative provides a limited process for exemptions focusing on ensuring the population objectives for that CA is being met.
- IHZ: New infrastructure generally permitted subject to certain criteria similar to the best management practices required for proposing a project under the CHZ exemption process.
- GHZ: New infrastructure permitted. No special GRSG direction.

Range Management (Livestock Grazing)

Livestock grazing management would occur with the following considerations:

- Focus on meeting the Idaho Rangeland Health Standards with particular emphasis on Standards 2, 4 (per the COT) and 8 with respect to GRSG.
- Provide an adaptive response where necessary and appropriate for Standard 8, with respect to GRSG that relies on the adaptive construct of the plan as mentioned above.
- For regularly scheduled permit renewals, the process for analyzing Standards 2, 4 prioritizes the need to examine allotments within CHZ with declining population. Second, the Alternative stresses the need to use Ecological Site Potential and the desired conditions described in Tables 2-16 through 2-18 in determining whether grazing is the casual factor for the decline of GRSG or GRSG habitat. Where grazing is the casual factor, the Alternative provides a suite of potential best management practices tailored to resolve the limiting factor(s) based on appropriate spatial and temporal monitoring.



Table 2-11
Alternative E Suppression

What:	Create additional Rangeland Fire Protection Associations within the CHZ and IHZ and continue to support existing Rangeland Fire Protection Associations.	Response Time Analysis	Suppression Capacity Analysis/Implementation	Water Capacity Analysis/Implementation	Educate Firefighters on importance of protecting CHZ and IHZ.
Where:	Prioritize funding for Rangeland Fire Protection Associations that provide coverage for habitat within CHZ and IHZ. Focus on areas that currently have no Rangeland Fire Protection Association coverage.	Complete a state-wide response time analysis for the SGMA.	Identify areas (e.g., south-west corner of Idaho/N. Nevada/S.E. Oregon) that need strategic placement of additional suppression resources (i.e., guard stations, air attack, landing strips).	Complete a state-wide analysis of the SGMA for current water availability for suppression purposes.	All Field Offices and Ranger Districts within the SGMA.
How:	Through an MOU between IDL and BLM.	Coordination amongst BLM, Forest Service, State of Idaho, rural fire districts and Rangeland Fire Protection Associations.	Coordination amongst BLM, Forest Service, State of Idaho, rural fire districts and Rangeland Fire Protection Associations.	Coordination amongst BLM, Forest Service, State of Idaho, rural fire districts and Rangeland Fire Protection Associations.	Annual fire training in the spring.
How Much:	Over the long-term acquire funding to support Rangeland Fire Protection Associations that provide coverage for all CHZ and IHZ in Idaho. Priority for an additional Rangeland Fire Protection Association should go to the West Owyhee CA, following	Focus should be on response time to fires within CHZ or IHZ or on those fires that have the potential to impact CHZ and IHZ.	Sufficient resources strategically placed in areas of high fire risk within the CHZ and IHZ. Priority should go to the West Owyhee CA.	Sufficient water resources strategically placed in areas of high fire risk within the CHZ and IHZ. Priority should go to the West Owyhee CA.	

Table 2-11
Alternative E Suppression

	with an additional Rangeland Fire Protection Association in the Southern Conservation Area.				
By When:	Within 1 year of the signing of the ROD.	Within 1 year of signing the ROD.	Within 1 year of the signing of the ROD.	Within 1 year of the signing of the ROD.	Upon the signing of the ROD.
Mechanism:	Through an MOU w/the State of Idaho and BLM.	LUP for BLM- and Forest Service-administered lands.	LUP and MOU amongst all entities.	LUP and MOU amongst all entities.	LUP for BLM- and Forest Service-administered lands.

Table 2-12
Alternative E Prevention

What:	Fuel Breaks	Fuels Reduction	Fuels Reduction	Fuels Reduction	Fuels Reduction	Fire Restrictions/Closures
Where:	Complete and implement a strategy that identifies the location and extent of fuel breaks that provides adequate defensible space for firefighters. Priority should go to areas within the WUI to eventually allow for fewer resources to be allocated to the WUI,	Identify and prioritize areas of R2 - Annual grasslands within the IHZ and GHZ based on an overlay analysis with the key habitat map (prioritize the CA's).	R2 - Annual grasslands	Identify and prioritize areas of R1 - Perennial grasslands within Core and Important habitat zones based on an overlay analysis with the Key Habitat map (prioritize the CA's).	Identify and prioritize areas of R3 (conifer encroached areas) for restoration by CA, then within CHZ and IHZs.	Identify roads, trails, and recreational use areas with high frequency of human caused fires.

Table 2-12
Alternative E Prevention

	thus freeing up resources to combat wildfires that have the potential to impact the CHZ or IHZ. Consider 300ft wide "green strips" as well as targeted grazing for fuel breaks.					
How:	Mechanical	Winter Livestock Grazing	Herbicide Treatment	Livestock grazing	Mechanical	Utilizing data that indicates the frequency of human - caused wildfires.
How Much:	Determined at the local planning level: BLM Field Office and Forest Service Ranger District.	Determined at the local planning unit level: Field Office and Ranger District depending upon fuel type, severity and fire threat to the CHZ and IHZ in close coordination with federal livestock grazing permittees. Livestock grazing must be recognized as an effective fuels management tool and implemented as such. Livestock	Determined at the local planning level: BLM Field Office and Forest Service Ranger District.	Determined at the local planning unit level: Field Office and Ranger District depending upon fuel type, severity and fire threat to the CHZ and IHZ in close coordination with federal livestock grazing permittees. Livestock grazing must be recognized as an effective fuels management tool and implemented as such.	Determined at the local planning level: BLM Field Office and Forest Service Ranger District.	Within or adjacent to the CHZ and IHZ with high frequency of human caused fires.

Table 2-12
Alternative E Prevention

		operators must be looked to for guidance on the design and placement of fuel Reduction projects that utilize grazing.		Livestock operators must be looked to for guidance on the placement of fuels reduction projects that utilize grazing.		
By When:	Strategy and associated NEPA completed within two years of signing the ROD.	Strategy and associated NEPA completed within two years of signing the ROD.	Strategy and associated NEPA completed within two years of signing the ROD	Strategy and associated NEPA completed within two years of signing the ROD	Strategy and associated NEPA completed within two years of signing the ROD	Strategy and associated NEPA completed within two years of signing the ROD
Mechanism:	LUPs for BLM- and Forest Service-administered lands. Intergovernmental MOUs, stewardship contracting.	LUP for BLM- and Forest Service-administered lands; An adaptive management trigger with fuel loading that is measured in the fall/winter. Implemented through stewardship contracting and/or grazing permits.	LUPs for BLM- and Forest Service-administered lands	LUPs for BLM- and Forest Service-administered lands	LUPs for BLM- and Forest Service-administered lands	LUPs for BLM- and Forest Service-administered lands

Table 2-13
Alternative E Restoration

What:	Reseeding	Sagebrush Seedlings	Invasive Annual Grass Expansion Prevention	Reseeding on State owned lands by federal contractors	Conifer removal on state owned lands by federal contractors
Where:	Within CHZ and IHZ based upon ecological site potential.	Within CHZ and IHZ based upon ecological site potential.	Prioritize efforts to control annual grass to: 1) prevent further spread into, and 2) reduce stands within, CHZ and IHZ of each CA. Preventing invasion into CHZ or IHZ may include conducting control in adjacent GHZ.	State owned lands in CHZs and IHZs of each CA.	Identify and prioritize areas of R3 (conifer encroached areas) for restoration by CA, then within CHZ and IHZs.
How:	Complete a strategy that identifies and prioritizes the location and amount of reseeding efforts.	Complete a strategy that identifies and prioritizes the location and amount.	First, model annual grass invasion. Second develop a strategy that identifies and prioritizes locations for prevention and restoration.	MOU between BLM, Forest Service and State of Idaho	MOU between BLM, Forest Service and State of Idaho
How Much:	First, offset sage-grouse habitat lost to wildfires in CHZ and IHZ of each CA since 2011 (baseline year). Second, offset modeled wildfires (future fires) resulting in losses to 2011 habitat baselines for CHZ and IHZ in each	First, plant seedlings in perennial grasslands of CHZs that do not have sagebrush. Second plant seedlings in perennial grasslands of IHZs that do not have sagebrush.	First, implement techniques to prevent further spread in CHZs, then IHZs. Second, offset annual grass spread in CHZs and IHZs that occurred since 2011. Third, offset habitat losses due to annual grass invasion prior to	If ecological site condition indicates restoration is needed, reseed all state owned lands burned in CHZs and IHZs within 1 year of the wildfire.	Remove Phase I and II conifers from state-owned lands adjacent to or within federal lands conifer removal projects.

Table 2-13
Alternative E Restoration

	CA. Third, offset habitat losses due to wildfire that occurred prior to 2011 to build upon the 2011 baselines (the long term objective is not just to reduce and offset current (2011 to present) and future losses but also to build upon the baselines to increase habitats). Number 2 and 3 likely means restoring perennial grasslands.		2011.		
By When:	Complete strategy within 1 year of the signing of the ROD. Implement restoration to offset wildfire losses in CHZs and IHZs since 2011 within 2 years of signing ROD. Offset models wildfire losses (future fires in the next 5 years) in CHZs and IHZs 3 years after signing of the ROD. Offset losses prior to 2011 is a longer timeline.	Complete the strategy by 1 year of signing of the ROD. Complete planting of CHZs within X years of the ROD. Complete planting of IHZs within X years of the ROD	Complete modeling and strategy within 1 year of the signing of the ROD. Implement techniques to prevent further spread in CHZs and IHZs within 2 years of signing ROD. Offset annual grass spread in CHZs and IHZs since 2011 by 3 years after signing of the ROD. Offset losses prior to 2011 is longer timeline.	Sign MOU within 1 year of the signing of the ROD. Reseed state owned lands within 1 year of the wildfire.	Sign MOU within 1 year of the ROD. Conduct conifer removal on state lands within the timeframe of federal project(s).

Table 2-13
Alternative E Restoration

Mechanism:	LUP for BLM and Forest Service lands.	LUP for BLM and Forest Service lands.	LUP for BLM and Forest Service lands.	MOU between BLM, Forest Service and State of Idaho	MOU between BLM, Forest Service and State of Idaho
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A suite of management activities that may or may not occur within a given area are described in **Table 2-17**. General characteristics of GRSG seasonal habitats are presented in **Table 2-14**, General Characteristics of Late Brood Rearing Habitat, **Table 2-15**, General Characteristics of Winter Habitat, and **Table 2-16**, General Characteristics of Productive Breeding/Nesting and Early Brood Rearing Habitat.

Table 2-14
General Characteristics of Late Brood Rearing Habitat

Habitat Features	Habitat Indicators	Habitat Characteristics	
		Upland Sagebrush Communities	Riparian/Wet Meadow Communities
Protective Cover	Sagebrush Canopy Cover	10-25%	N/A
	Sagebrush Height	16-31 inches	N/A
	Sagebrush Proximity	N/A	Protective sagebrush cover (10-25%) is within 300 m of riparian/meadow feeding area
Protective Cover and Food	Grass/forb canopy cover	>15%	N/A
Food	Forb Availability	Succulent forbs are available during the summer. Generally applies to higher elevations, such as Mountain big sagebrush sites.	Riparian and wet meadow conditions are such that succulent forbs are available during the summer.

Table 2-15
General Characteristics of Winter Habitat

Habitat Features	Habitat Indicators	Habitat Characteristics
Protective Cover and Food	Sagebrush Canopy Cover	10-30% exposed above snow
	Sagebrush Height	10-14 inches exposed above snow

Table 2-16
General Characteristics of Productive Breeding/Nesting and Early Brood Rearing Habitat

Habitat Features	Habitat Indicators	Habitat Characteristics	
		Arid Sites	Mesic Sites
Protective Cover	Sagebrush Canopy Cover	15-25%	15-25%
	Sagebrush Height	12-31 inches	16-31 inches
	Sagebrush Growth Form	Spreading	Spreading
	Perennial Grass/Forbs Heights (post hatch)	Adequate residual nesting cover ⁸	
	Perennial Grass Canopy Cover	Not Specified	>15%

⁸ As defined by Connelly et al. 2000, Hausleitner 2003, and Holloran et al. 2005.



Table 2-16
General Characteristics of Productive Breeding/Nesting and Early Brood Rearing Habitat

Habitat Features	Habitat Indicators	Habitat Characteristics	
		Arid Sites	Mesic Sites
Protective Cover and Food	Forb Canopy Cover	Not Specified	>10%
	Total Grass/Forb Cover	>15%	>25%
Food	Forb Availability	Good abundance and availability relative	

¹As defined by Connelly et al. 2000; Hausleitner 2003; and Holloran 2005.

2.6.6 Alternative F

Similar to Alternative C, Alternative F was developed through consideration of public scoping comments and suggestions. Alternative F closely mirrors management direction proposed in Alternative B, but prescribes additional and more restrictive conservation measures. The public proposal stated that the NTT's assessment and recommendations for some planning issues, such as livestock grazing and associated infrastructure, vegetation management, invasive plants, fire management, and wind energy development, are insufficient to robustly conserve GRSG across its range. Alternative F makes additional and stronger management prescriptions for these land uses and related effects. Alternative F also proposes that BLM and Forest Service designate a system of ACECs (BLM) and GRSG Zoological Areas (Forest Service) to serve as refugia for GRSG and other species. The BLM and Forest Service would apply a three percent disturbance cap on surface disturbances (including fire) in PPMAs.

Greater Sage-Grouse Mapping and Habitat Designation

PPMAs and PGMAs would be designated under Alternative F, with the same boundaries as proposed under Alternative B. However, Alternative F would also propose to manage PRMAs, which is degraded or fragmented habitat that is currently unoccupied by GRSG, but might be useful to the species if restored to its potential natural community. PRMAs were identified as additional areas outside of PPMAs and PGMAs that are categorized as R2 areas from Idaho's Greater Sage-Grouse Habitat Map. R2 areas are annual grass-dominated areas (either shrubland or grassland) with low restoration potential. Acreages of each management area are shown in **Table 2-2**.

Lands and Realty

Similar to Alternative B, a five percent disturbance cap would be applied under Alternative F. Lands and realty management would be similar to Alternative B, though with more stringent restrictions on disposal criteria (see **Table 2-18**).

Travel Management

Travel and transportation management would be similar to Alternative B, although during travel management planning, no new road construction would be allowed within 4 miles of leks in PPMA and mitigation of impacts from route construction would be required under Alternative F.

Range Management

Livestock grazing management would be similar to Alternative B, though Alternative F would incorporate a 25 percent reduction in AUMs as well as more stringent guidance and restrictive measures to reduce impacts.

Special Designations

Under Alternative F, BLM would designate 17 or 18 new ACECs and the Forest Service would designate 12 new Zoological Areas. After the BLM completed its ACEC evaluation process, the Forest Service evaluated GRSG habitat adjacent to potential ACECs found to have relevance and importance. The Forest Service is considering designating these areas as GRSG Zoological Areas to ensure consistent management across the landscape. When considering GRSG Zoological Areas, the Forest Service is not required to go through the same screening criteria that the BLM is required to go through when considering ACEC designation. Zoological Areas are comparable to Forest Service Special Management Areas.

Other

Wildland fire management under Alternative F would be similar to Alternative B, though Alternative F would require post-fire exclusion of grazing. Other management would be the same as described for Alternative B.

2.6.7 Decision to be Made

Decisions made through this amendment apply for the life of the LUP. Actions taken or authorized by the BLM and Forest Service during LUP implementation would comply with standard practices and **Appendix C**, Greater Sage-Grouse Habitat Required Design Features and Best Management Practices. Therefore, these practices and guidelines are considered part of each alternative.

2.6.8 How to Read Tables 2-17 and 2-18

The following describes how Table 2-17, Goals and Objectives by Alternative, and Table 2-18, Management Actions by Alternative, are written and formatted to show the land use plan decisions proposed for each alternative.

Per Appendix C of BLM Land Use Planning Handbook H-1601-1 (BLM 2005), land use plan decisions are broad-scale decisions that guide future land management actions and subsequent site-specific implementation decisions. BLM LUP decisions fall into two categories, which establish the base structure for Table 2-17: desired outcomes (goals and objectives), and allowable uses and actions to achieve outcomes. The analogous Forest Service language used in Forest Planning is included in **Appendix J**.

- **Goals** are broad statements of desired outcomes that usually are not quantifiable.
- **Objectives** identify specific desired outcomes for resources. Objectives may be quantifiable and measurable and may have established timeframes for achievement, as appropriate.



- **Actions** identify measures or criteria to achieve desired outcomes (i.e., objectives), including actions to maintain, restore, or improve land health.
- **Allowable uses** identify uses, or allocations, that are allowable, restricted, or prohibited on the BLM- and Forest Service-administered lands and mineral estate.
- **Stipulations** (e.g., NSO and CSU), which fall under the allowable uses category, may be applied to mineral leases to achieve desired outcomes (i.e., objectives) in situations where the standard lease terms may not adequately achieve those outcomes.

In general, only those resources and resource uses that have been identified as planning issues have notable differences between the alternatives.

Actions that are applicable to all alternatives are shown in one cell across a row. These particular objectives and actions would be implemented regardless of which alternative is ultimately selected.

Actions that are applicable to more than one but not all alternatives are indicated by either combining cells for the same alternatives, or by denoting those objectives or actions as the “Same as Alternative B,” for example.

In some cells, an em dash (—) is used as a placeholder and indicates that there is no similar goal, objective, or action to the other alternatives, or that the similar goal, objective, or action is reflected in another management action in the alternative.

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Table 2-17
Goals and Objectives by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Goals					
A-GOAL-1: No common goal across LUPs within the sub-region	B-GOAL-1: Maintain and/or increase GRSG abundance and distribution by conserving, enhancing or restoring the sagebrush ecosystem upon which populations depend in cooperation with other conservation partners.	C-GOAL-1: Same as Alternative A.	D-GOAL-1: Maintain and/or increase GRSG abundance and distribution by conserving, enhancing or restoring the sagebrush ecosystem upon which populations depend in cooperation with other conservation partners.	E-GOAL-1: Conserve the GRSG and its habitat to avoid a listing under the ESA (see NTT 2011).	F-GOAL -1: Maintain and increase current GRSG abundance and distribution by conserving, enhancing or restoring the sagebrush ecosystem
Objectives					
A-OBJ-1: No common objective across LUPs within the sub-region.	B-OBJ-1: Protect priority GRSG habitats from anthropogenic disturbances that will reduce distribution or abundance of GRSG.	C-OBJ-1: —	D-OBJ-1: Manage anthropogenic development and human disturbance in priority habitat to minimize the likelihood of adverse local population-level effects on GRSG.	E-OBJ-1: CHZ: Provide a level of protection sufficient to conserve at least 65% of the current known leks occurring in the State within CHZ through implementation of regulatory mechanisms. IHZ: Provide a population buffer to CHZ to minimize the risk of habitat loss from wildfire, invasive species while providing the opportunity to consider limited high-value infrastructure development.	F-OBJ-1: —
A-OBJ-2: No common objective across LUPs within the sub-region.	B-OBJ-2: Manage land uses, habitat treatments, and anthropogenic disturbances below thresholds necessary to conserve local GRSG populations, sagebrush communities and landscapes	C-OBJ-2: —	D-OBJ-2: —	E-OBJ-2: CHZ and IHZ: Limit habitat loss in the CHZ and IHZ during the first three-year period of implementation (2014-2017) to no more than 10% loss due to fire and/or infrastructure development resulting in a proportionate reduction of males counted on leks within a particular CA.	F-OBJ-2: —
A-OBJ-3: No common objective across LUPs within the sub-region.	B-OBJ-3: Sub-objective: Manage priority GRSG habitats so that discrete anthropogenic disturbances cover less than 3% of the total GRSG habitat regardless of ownership. Anthropogenic features include but are not limited to paved highways, graded gravel roads, transmission lines, substations, wind turbines, oil and gas wells, geothermal wells and associated facilities, pipelines, landfills, homes, and mines. In priority habitats where the 3% disturbance threshold is already exceeded from any source, no further anthropogenic disturbances will be	C-OBJ-3: —	D-OBJ-3: —	E-OBJ-3: —	F-OBJ-3: —

Table 2-17
Goals and Objectives by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
	permitted by BLM or Forest Service until enough habitat has been restored to maintain the area under this threshold (subject to valid existing rights). In this instance, an additional objective will be designated for the priority area to prioritize and reclaim/restore areas affected by anthropogenic disturbances so that 3% or less of the total priority habitat area is disturbed within 10 years.				
A-OBJ-4: No common objective across LUPs within the sub-region.	B-OBJ-4: Maintain or increase current distribution and abundance of GRSG on BLM administered lands in support of the range-wide goals	C-OBJ-4: —	D-OBJ-4: —	E-OBJ-4: —	F-OBJ-4: —
A-OBJ-5: No common objective across LUPs within the sub-region.	B-OBJ-5: Sub-objective: Develop quantifiable habitat and population objectives with WAFWA and other conservation partners at the management zone and/or other appropriate scales. Develop a monitoring and adaptive management strategy to track whether these objectives are being met, and allow for revisions to management approaches if they are not.	C-OBJ-5: —	D-OBJ-5: —	E-OBJ-5: —	F-OBJ-5: —
A-OBJ-6: No common objective across LUPs within the sub-region.	B-OBJ-6: Sub-objective: Designate priority GRSG habitats for each WAFWA management zone (Stiver et al. 2006) across the current geographic range of GRSG that are large enough to stabilize populations in the short term and enhance populations over the long term.	C-OBJ-6: —	D-OBJ-6: Sub-objective: Designate priority GRSG habitats for each WAFWA management zone (Stiver et al. 2006) across the current geographic range of GRSG that are large enough to stabilize populations in the short term and enhance populations over the long term.	E-OBJ-6: CHZ: Focus management by Federal and State agencies on the maintenance and enhancement of habitats, populations and connectivity in areas within this management zone. IHZ: Focus management by Federal and State agencies on areas within this zone that have the best opportunities for conserving, enhancing or restoring habitat for GRSG. Provide management flexibility to permit high-value infrastructure projects.	F-OBJ-6: —
A-OBJ-7: No common objective across LUPs within the sub-region.	B-OBJ-7: Sub-objective: To maintain or increase current populations, manage or restore priority areas so that at least 70% of the land cover provides adequate sagebrush habitat to meet GRSG needs.	C-OBJ-7: —	D-OBJ-7: Identify and expand sagebrush areas to increase the extent and condition of available habitat on the landscape.	E-OBJ-7: —	F-OBJ-7: —

Table 2-17
Goals and Objectives by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
A-OBJ-8: No common objective across LUPs within the sub-region.	B-OBJ-8: —	C-OBJ-8: —	D-OBJ-8: Manage PGMAs in a way that buffers adjoining PPMAs from disturbances.	E-OBJ-8: —	F-OBJ-8: —
A-OBJ-9: No common objective across LUPs within the sub-region.	B-OBJ-9: —	C-OBJ-9: —	D-OBJ-10: Reconnect and expand areas of higher native plant community integrity/rangeland health to increase the extent of high quality habitat and, where possible, to accommodate the future effects of climate change.	E-OBJ-9: —	F-OBJ-9: —
A-OBJ-10: No common objective across LUPs within the sub-region.	B-OBJ-10: —	C-OBJ-10: —	D-OBJ-10: Increase the amount and functionality of seasonal habitats. a. Increase canopy cover and average patch size of sagebrush in perennial grasslands. b. Increase the amount, condition and connectivity of seasonal habitats. c. Protect or improve GRSG migration/movement corridors. d. Reduce conifer encroachment within GRSG seasonal habitats. e. Improve understory (grass, forb) and/or riparian condition within breeding and late brood-rearing habitats. f. Reduce the extent of annual grasslands adjacent to priority habitat.	E-OBJ-10: —	F-OBJ-10: —
A-OBJ-11: No common objective across LUPs within the sub-region.	B-OBJ-11: —	C-OBJ-11: —	D-OBJ-11: Minimize the loss of existing priority sagebrush habitat. In particular, identify and strategically protect larger in-tact sagebrush areas and areas of lower fragmentation to maintain GRSG population persistence.	E-OBJ-11: CHZ: Implement the regulatory mechanisms to maintain and enhance GRSG habitats, populations and connectivity in areas within the CHZ, buffered by strategic areas within IHZ, dominated by sagebrush. IHZ: Provide strategic buffers in areas dominated by sagebrush to CHZ where regulatory mechanisms maintain and enhance GRSG habitats, populations and connectivity in areas within the CHZ.	F-OBJ-11: Establish a system of sagebrush reserves to anchor recovery efforts by protecting the highest quality habitats.
A-OBJ-12: No common objective across LUPs within the sub-region.	B-OBJ-12: —	C-OBJ-12: —	D-OBJ-12: Conserve, enhance or restore PGMAs to improve habitat condition and connectivity between PPMAs.	E-OBJ-12: —	F-OBJ-12: Restore and maintain sagebrush steppe to its ecological potential in occupied GRSG habitat.
A-OBJ-13: No common objective across LUPs within the sub-region.	B-OBJ-13: —	C-OBJ-13: —	D-OBJ-13: Reduce or minimize risk of West Nile Virus or other diseases.	E-OBJ-13: —	F-OBJ-13: —

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
SSS – GRSG					
<p>A-SSS-1: There is no consistent mapping representation of GRSG habitat across the sub-region, nor is there any consistent designation of habitat within the sub-region (see Table 2-2).</p> <p>Idaho BLM, in coordination with IDFG and LWGs, has developed and maintained a Key Sage-Grouse map over the last 12 years which depicts areas important to GRSG (Key areas) and areas where restoration could potentially occur to restore habitat conditions (R1 perennial grass dominated areas; R2 – annual grass dominated areas; and R3 – conifer encroachment areas) Montana BLM in coordination with MFWP has developed a Core Habitat map that depicts important areas for GRSG (Core areas). These maps (the Idaho Key Habitat and Montana Core Habitat) do not represent any habitat designation with associated management direction, but instead are used as an information tool to help prioritize site specific management, suppression and rehabilitation efforts.</p> <p>Several National Forests have designated GRSG habitat with associated management guidance. These include the Beaverhead-Deerlodge, Caribou-Targhee and Sawtooth NFs. The habitat designations were typically defined as buffers around existing leks and adjusted managed within those areas.</p>	<p>B-SSS-1: PPMA: Designate PPMA on 8,229,500 acres (see Table 2-2).</p> <p>PPMA includes areas that have the highest conservation value to maintaining or increasing GRSG populations. These areas include breeding, late brood-rearing, winter concentration areas, and where known, migration or connectivity corridors.</p> <p>PGMA: Designate PGMA on 3,145,000 acres (see Table 2-2).</p> <p>PGMA is occupied (seasonal or year-round) habitat outside of PPMA.</p>	<p>C-SSS-1: PPMA: Designate PPMA on 11,119,900 acres (see Table 2-2).</p> <p>PPMA is all occupied (seasonal or year-round) GRSG habitat.</p>	<p>D-SSS-1: PPMA: Designate PPMA on 6,819,100 acres (see Table 2-2).</p> <p>PPMA includes areas that have the highest conservation value to GRSG. Key characteristics include areas of higher lek attendance and lek connectivity, lower habitat fragmentation, important movement corridors and winter habitat.</p> <p>PMMA: Designate Preliminary Medial Management Areas (PMMA) on 1,348,100 acres (see Table 2-2).</p> <p>PMMA includes areas of moderate to high conservation value to GRSG that are generally adjacent to PPMA but reflect reduced GRSG population and/or habitat characteristics.</p> <p>PGMA: Designate PGMA on 2,934,100 acres (see Table 2-2).</p> <p>PGMA is occupied (seasonal or year-round) habitat outside of PPMA and PMMA.</p>	<p>E-SSS-1: Idaho – CHZ: Designate CHZ on 4,824,900 acres (see Table 2-2).</p> <p>CHZ focuses on conserving each of the two key meta-populations in the State. These meta-populations consist of a large aggregation of interconnected breeding subpopulations of GRSG that have the highest likelihood of long-term persistence. One meta-population is located north of the Snake River and includes the Mountain Valley and Desert CAs; the other is located south of the Snake River and includes the West Owyhee and Southern CAs.</p> <p>Idaho – IHZ: Designate IHZ on 2,743,400 acres (see Table 2-2).</p> <p>IHZ, while permitting more management flexibility, also contains important habitat for the species and is an important buffer against the threat of wildfire. IHZ captures high quality habitat and populations that provide a management buffer for the CHZ, connect patches of CHZ, and support important populations and habitat independent of CHZ.</p> <p>Idaho – GHZ: Designate GHZ on 3,516,300 acres (see Table 2-2).</p> <p>GHZ generally includes few active leks, and fragmented or marginal habitat. It includes habitat for two isolated populations of GRSG in the East Idaho Uplands and West Central Idaho.</p> <p>Montana Habitat: All goals, objectives and management actions are the same as Alternative A and are summarized in</p>	<p>F-SSS-1: PPMA: Designate PPMA on 8,229,900 acres (see Table 2-2).</p> <p>PPMA conserves large expanses of sagebrush steppe and all active GRSG leks, and brood-rearing, transitional, and winter habitats.</p> <p>PGMA: Designate PGMA on 2,891,500 acres (see Table 2-2).</p> <p>PGMA is occupied (seasonal or year-round) habitat outside of PPMA.</p> <p>PRMA: Designate Preliminary Restoration Management Areas (PRMA) on 500,200 acres (see Table 2-2).</p> <p>PRMA is degraded or fragmented habitat that is currently unoccupied by GRSG but might be useful to the species if restored to its potential natural community.</p>

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
				Appendix G. Utah Habitat: Designate PPMA on 71,800 acres. All lands with GRSG habitat in the portion of the Sawtooth National Forest sub-region in Utah are PPMA (see Table 2-2).	
A-SSS-2: —.	B-SSS-2: PPMA: —. PGMA: —.	C-SSS-2: PPMA: —.	D-SSS-2: PPMA: —. PMMA: —. PGMA: —.	E-SSS-2: Idaho – Common to All Habitats: —. Utah Habitat: Limit or ameliorate impacts from activities as identified in this matrix through the use of the following stipulations: <ul style="list-style-type: none">• New permanent disturbance, including structures, fences, and buildings, should not be located within the occupied lek itself.• No permanent disturbance within 1 mile of an occupied lek, unless it is not visible to the GRSG using the lek.• New permanent tall structures should not be located within one mile of the lek, if visible by the birds within the lek.• A disturbance outside the lek should not produce noise more than 10 dBs above the ambient (background) level at the edge of the lek during breeding season.• Apply time-of-day stipulations when the lek is active (e.g., no activity from 2-hours before sunrise to 2-hours after sunrise).• Avoid activities (construction, vehicle noise, etc.) in the following seasons and habitats:<ul style="list-style-type: none">○ On leks from February 15 – May 15 to avoid activities that will disturb lek attendance or breeding.○ In nesting and brood-rearing areas from April 1 – August	F-SSS-2: PPMA: —. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
				<div>15.<ul style="list-style-type: none">○ In winter habitat from November 15 – March 15.• Specific time and distance determinations for seasonal stipulations would be based on site-specific conditions, in coordination with the local Utah Department of Wildlife Resources biologist.• Avoid disturbance within PPMA (nesting and brood-rearing areas, winter habitat, other habitat), if possible. Project proponents must demonstrate why avoidance is not possible. If avoidance in PPMA is not possible, minimize as appropriate to the area (e.g., try to minimize effects by locating development in habitat of the least importance, take advantage of topographic to screen the disturbance, or maintaining and enhancing wet meadow and riparian vegetation).• After minimization, mitigation is required (see mitigation section).• Cumulative new permanent disturbance should not exceed 5% of surface area of nesting, winter, or other habitat, within the population area’s PPMA.• Manage PPMA to avoid barriers to migration, if applicable.</div>	
A-SSS-3: No disturbance cap is managed across the sub-region.	B-SSS-3: PPMA: Apply a three percent surface disturbance cap on anthropogenic disturbances (not including fire). PGMA: —.	C-SSS-3: Same as Alternative B.	D-SSS-3: PPMA: Require no net unmitigated loss of PPMA’s. PMMA: —. PGMA: —.	E-SSS-3: Idaho – CHZ: Apply a three percent surface disturbance cap on fluid mineral development. Idaho – IHZ: Apply a five percent surface disturbance cap on fluid mineral development. Idaho – GHZ: —. Utah Habitat: —.	F-SSS-3: PPMA: Apply a three percent disturbance cap on surface disturbances, including fire.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Monitoring					
A-SSS-4: —.	B-SSS-4: Develop a Monitoring Framework to include: methods, data standards, and intervals of monitoring at broad and mid scales; consistent indicators to measure and metric descriptions for each of the scales [see Habitat Assessment Framework (HAF) and Assessment, Inventory and Monitoring core indicators]; analysis and reporting methods; and the incorporation of monitoring results into adaptive management.	C-SSS-4: Same as Alternative B.	D-SSS-4: Same as Alternative B.	E-SSS-4: Utilize lek monitoring and habitat monitoring to annually assess adaptive management triggers.	F-SSS-4: Same as Alternative B.
Adaptive Management					
A-SSS-5: —.	B-SSS-5: Develop an adaptive management strategy to provide certainty that unintended negative impacts on GRSG will be addressed before consequences become severe or irreversible and to provide regulatory certainty to the USFWS that appropriate action will be taken by the BLM and Forest Service.	C-SSS-5: Same as Alternative B.	D-SSS-5: Use habitat and population triggers to adjust management in PMMA. All management identified for PPMA's would apply to PMMA's in response to triggers. See Section 2.6.4 for details.	E-SSS-5: Use hard and soft population and habitat triggers to adjust management in IHZ. Management from CHZs, primarily for infrastructure, would apply to IHZ in response to triggers. Develop the following: <ul style="list-style-type: none">Fuel Break StrategyResponse Time AnalysisWater Availability AnalysisRestoration Strategy (see Section 2.6.5 and Appendix D)	F-SSS-5: Same as Alternative B.
Vegetation					
A-VG-1: —.	B-VG-1: PPMA: --. PGMA: —.	C-VG-1: PPMA: —.	D-VG-1: PPMA: —. PMMA: —. PGMA: —.	E-VG-1: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-VG-1: PPMA: In PPMA, ensure that soil cover and native herbaceous plants are at their Ecological Site Description potential to help protect against invasive plants. In areas without Ecological Site Descriptions, reference sites would be utilized to identify appropriate vegetation communities and soil cover. PGMA: —. PRMA: —.
Habitat Restoration					
A-VG-2: In most LUPs, either no priorities are established or	B-VG-2: PPMA: Prioritize implementation of restoration projects	C-VG-2: PPMA: Same as Alternative B.	D-VG-2: PPMA: Prioritize implementation of vegetation	E-VG-2: Idaho – CHZ: Prioritize the removal of conifers through methods	F-VG-2: PPMA: Prioritize implementation of restoration projects

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<p>prioritization is given to projects that benefit multiple resources (e.g., livestock, wildlife, wild horses and burros, special status species).</p> <p>All LUPs which recognize conifer expansion and its effects on sagebrush steppe habitat uniformly identify the need for controlling conifer expansion through various methods including: hand cutting, wood cutting, mechanical, prescribed fire, chemical treatments, and through the use of wildfire where feasible.</p> <p>Montana BLM: Restore vegetation to benefit multiple uses. Promote the use of native species where possible (See ROD pg. 51 Actions 3, 12, 14 and Appendix X of Dillon ROD/RMP). Restore and maintain desired ecological conditions and fuel loadings. Evaluate benefits against loss of sagebrush in NEPA process. Do not burn Wyoming sagebrush.</p>	<p>based on environmental variables that improve chances for project success in areas most likely to benefit GRSG (Meinke et al. 2009). Prioritize restoration in seasonal habitats that are thought to be limiting GRSG distribution and/or abundance.</p> <p>PGMA: —.</p>		<p>rehabilitation projects to achieve the greatest improvement in GRSG habitat. Factors contributing to higher emphasis for implementation include:</p> <ul style="list-style-type: none">• Sites where environmental variables contribute to improved chances for project success (Meinke et al. 2009).• Improvement of seasonal habitats that are thought to be limiting GRSG distribution and/or abundance (wintering areas , wet meadows and riparian areas, nesting areas, leks, etc.).• Re-establishment of sagebrush cover in otherwise suitable GRSG with consideration to local needs and conditions using the general priorities in the following order:<ul style="list-style-type: none">• Native grassland with suitable forb component• Nonnative grassland with suitable forb component• Recently burned native areas• Native grassland• Nonnative grassland• Where desirable perennial bunchgrasses and/or forbs are deficient in existing sagebrush stands, use appropriate mechanical, aerial or other techniques to re-establish them. Examples include but are not limited to, use of a Lawson aerator with seeding, harrow or chain with seeding, drill seeding, hand planting plugs, aerial seeding or other appropriate technique.• Cooperative efforts that may improve GRSG habitat quality over multiple ownerships.• Projects in PGMA that may provide connectivity between	<p>appropriate for the terrain and most likely to facilitate expeditious GRSG population and habitat recovery. To the extent possible, utilize removal methods creating the least amount of disturbance.</p> <p>a. Efforts should focus on areas with highest restoration potential typically evidenced by low canopy cover, existing sagebrush understory, and adjacent current populations.</p> <p>b. Refrain from using prescribed fire and conducting removal projects in juniper stands older than one hundred years.</p> <p>c. Maximize the use of Natural Resource Conservation Service funding through permittee grants under the Environmental Quality Incentives Program and Wildlife Habitat Improvement programs.</p> <p>Idaho – IHZ: Prioritize the removal of conifers through methods appropriate for the terrain and most likely to facilitate expeditious GRSG habitat recovery. Especially prioritize and target removal treatments adjacent to CHZ. To the extent possible, utilize methods creating the least amount of disturbance.</p> <p>a. Areas with highest restoration potential will typically have low canopy cover, existing sagebrush understory, and adjacent current populations.</p> <p>b. Refrain from using prescribed fire and conducting removal projects in juniper stands older than one-hundred years.</p> <p>c. Maximize the use of Natural Resource Conservation Service funding through permittee grants under the Environmental Quality Incentives Program and Wildlife Habitat</p>	<p>based on environmental variables that improve chances for project success in areas most likely to benefit GRSG (Meinke et al. 2009).</p> <p>Prioritize restoration in seasonal habitats that are thought to be limiting GRSG distribution and/or abundance and where factors causing degradation have already been addressed (e.g., changes in livestock management).</p> <p>PGMA: —.</p> <p>PRMA: —.</p>

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
			<p>suitable habitats or expand existing good quality habitats.</p> <ul style="list-style-type: none">Projects that address conifer encroachment into important GRSG habitats. In general the priority for treatment is 1) Phase 1 (≤10% conifer cover), 2) Phase 2 (10-30%), and 3) Phase 3 (>30%).Replacing stands of annual grasses within otherwise good quality habitats with desirable perennial species. Other factors that contribute to the importance of the restoration project in maintaining or improving GRSG habitat. <p>PMMA: Same as PPMA.</p> <p>PGMA: Same as PPMA.</p>	<p>Improvement programs.</p> <p>Idaho – GHZ: —.</p> <p>Montana Habitat: Same as Alternative A.</p> <p>Utah Habitat: Protection of GRSG habitat is the primary focus of conservation efforts, but many locations can be reclaimed or restored by active vegetation management actions. For example:</p> <ul style="list-style-type: none">removal of encroaching conifers may create new habitat or increase the carrying capacity of habitat and thereby expand GRSG populations, orthe distribution of water into wet meadow areas may improve seasonal brood-rearing range and enhance GRSG recruitment. <p>Aggressively remove encroaching conifers and other plant species to expand GRSG habitat where possible.</p> <p>Sagebrush treatment projects within nesting and winter habitat should be limited and require pre-approval by the appropriate regulatory agency in discussions with DWR. Sagebrush treatment projects should maintain 80% of the available habitat as sagebrush within the project area; 20% of the habitat can be managed for younger age classes of sagebrush, if appropriate. These treatments are generally recommended only to improve brood-rearing habitat, but need to be carefully considered before use in winter and other habitat.</p>	
A-VG-3: Guidance and management direction for general vegetation is fairly broad and trends toward maintaining	B-VG-3: PPMA: —. PGMA: —.	C-VG-3: PPMA: Composition, function, and structure of native vegetation communities will be	D-VG-3: PPMA: —. PMMA: —.	E-VG-3: Idaho – Common to All Habitats: —.	F-VG-3: PPMA: —. PGMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
the components of the vegetative community in the same relative proportion as those which would have historically occurred in the area. Some LUPs contain objectives for maintaining, improving, or restoring sagebrush plant communities. The level of detail varies depending on the age of the land use plan.		consistent with the reference state of the appropriate Ecological Site Description and will be maximized to provide for healthy, resilient, and recovering GRSG habitat components.	PGMA: —.	Utah Habitat: —.	PRMA: —.
A-VG-4: All recent LUPs include management actions that promote use of native species where possible, acknowledging that in some instances, vegetative treatments may not be successful without the use of nonnative desired species. Older plans typically do not include a similar management action.	B-VG-4: PPMA: Require use of native seeds for restoration based on availability, adaptation (ecological site potential), and probability of success (Richards et al. 1998). Where probability of success or adapted seed availability is low, nonnative seeds may be used as long as they support GRSG habitat objectives (Pyke 2011). PGMA: —.	C-VG-4: PPMA: Same as Alternative B.	D-VG-4: PPMA: Same as Alternative B. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-VG-4: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-VG-4: PPMA: Same as Alternative B. PGMA: —. PRMA: —.
A-VG-5: All LUPs, which are written in accordance with applicable program direction, include management actions that allow the administrating agency to make adjustments to livestock grazing, wild horse and burro management, and travel management on a case-by case basis following restoration activities.	B-VG-5: PPMA: Design post restoration management to ensure long term persistence. This could include changes in livestock grazing management, wild horse and burro management and travel management, etc., to achieve and maintain the desired condition of the restoration effort that benefits GRSG (Eiswerth and Shonkwiler 2006). PGMA: —.	C-VG-5: PPMA: Same as Alternative B.	D-VG-5: PPMA: Implement management changes, as necessary, to maintain suitable GRSG habitat, improve unsuitable GRSG habitat and to ensure long-term persistence of improved GRSG habitat achieved through restoration efforts (Eiswerth and Shonkwiler 2006). Management changes could be considered for livestock grazing, wild horse and burros, travel planning, and other resources. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-VG-5: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-VG-5: PPMA: Same as Alternative B. PGMA: —. PRMA: —.
A-VG-6: —.	B-VG-6: PPMA: Consider potential changes in climate (Miller et al. 2011) when proposing restoration seedings when using native plants. Consider collection from the warmer component of the species current range when selecting native species (Kramer and Havens 2009).	C-VG-6: PPMA: Same as Alternative B.	D-VG-6: PPMA: —. PMMA: —. PGMA: —.	E-VG-6: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-VG-6: PPMA: Same as Alternative B. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
	PGMA: —.				
A-VG-7: Most LUPs do not include specific management actions related to seedings. Plans do include generic decisions that allow maintenance of existing range improvements, which includes maintenance of historical seedings. Recently completed LUPs promote use of native species when conducting restoration activities. This would include restoration projects conducted in areas that have perennial grass cover. Older plans do not include a similar management action.	B-VG-7: PPMA: Restore native (or desirable) plants and create landscape patterns which most benefit GRSG. PGMA: —.	C-VG-7: PPMA: Exotic seedings will be rehabbed, interseeded, restored to recover sagebrush in areas to expand occupied habitats.	D-VG-7: PPMA: —. PMMA: —. PGMA: —.	E-VG-7: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-VG-7: PPMA: —. PGMA: —. PRMA: —.
A-VG-8: Some LUPs contain objectives for maintaining improving, or restoring sagebrush plant communities. The level of detail varies depending on the age of the land use plan. All LUPs address vegetation treatments for improvement of wildlife habitat overall or to provide increased forage for wildlife, livestock, and wild horses and burros. Recent LUPs may include management actions that purposely restore or enhance GRSG habitat.	B-VG-8: PPMA: Make re-establishment of sagebrush cover and desirable understory plants (relative to ecological site potential) the highest priority for restoration efforts. PGMA: —.	C-VG-8: PPMA: Same as Alternative B.	D-VG-8: PPMA: —. PMMA: —. PGMA: —.	E-VG-8: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-VG-8: PPMA: —. PGMA: —. PRMA: —.
A-VG-9: —.	B-VG-9: PPMA: In fire prone areas where sagebrush seed is required for GRSG habitat restoration, consider establishing seed harvest areas that are managed for seed production (Armstrong 2007) and are a priority for protection from outside disturbances. PGMA: —.	C-VG-9: PPMA: Same as Alternative B.	D-VG-9: PPMA: In fire prone areas where sagebrush seed is required for GRSG habitat restoration, consider establishing seed harvest areas that are managed for seed production (Armstrong 2007). PMMA: Same as PPMA. PGMA: —.	E-VG-9: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-VG-9: PPMA: Same as Alternative B. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
A-VG-10: —.	B-VG-10: PPMA: —. PGMA: —.	C-VG-10: PPMA: Active restoration practices: <ul style="list-style-type: none">• Removal of livestock water troughs, pipelines, and wells.• Where possible, without further damage to springs/water sources, remove waterline piping and maximize water at spring/stream sources supporting diverse riparian and meadow vegetation.• Promote natural healing of headcuts to the maximum extent possible by limiting disturbance throughout the watershed. At times, a combination of methods may need to be used – but gabions and structural devises and boulder dumping should be limited, and restoration should strive for a functioning system.• Ripping/recontouring of roads and seeding with native local ecotypes of shrubs and grasses.	D-VG-10: PPMA: —. PMMA: —. PGMA: —.	E-VG-10: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-VG-10: PPMA: —. PGMA: —. PRMA: —.
A-VG-11: —.	B-VG-11: PPMA: —. PGMA: —.	C-VG-11: PPMA: Active restoration of crested wheatgrass seedlings. This can be accomplished, following targeted restoration planning to expand, reconnect or recover habitats required by GRSG by: <ul style="list-style-type: none">• Inter-seeding sagebrush seed or seedlings.• Removal of crested wheatgrass through plowing while minimizing use of herbicides. Subsequent re-seeding with local native ecotypes.• Active restoration of cheatgrass infestation areas.• In all cases, local native plant ecotype seeds and seedlings must be used.	D-VG-11: PPMA: —. PMMA: —. PGMA: —.	E-VG-11: Idaho – Common to All Habitats: —. Utah Habitat: Limit or ameliorate impacts through the use of the general stipulations identified in the GRSG section. Engage in reclamation efforts as projects advance or are completed. Recognize that stipulations for other species (e.g., raptors) may impede the ability to effectively reclaim disturbed areas, and remove those barriers in order to achieve immediate and effective reclamation, if otherwise allowable by law. Prioritize areas for habitat improvement to make best use of mitigation funds.	F-VG-11: PPMA: —. PGMA: —. PRMA: —.
A-VG-12: —.	B-VG-12: PPMA: —. PGMA: —.	C-VG-12: PPMA: —.	D-VG-12: PPMA: —. PMMA: —.	E-VG-12: Idaho – Common to All Habitats: —.	F-VG-12: PPMA Habitat: Avoid sagebrush reduction/treatments to increase livestock or big game forage in

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
			PGMA: —.	Utah Habitat: —.	PPMA and include plans to restore high-quality habitat in areas with invasive species. PGMA: —. PRMA: —.
A-VG-13: —.	B-VG-13: PPMA: —. PGMA: —.	C-VG-13: PPMA: —.	D-VG-13: PPMA: Utilize cooperative planning efforts to develop and implement habitat restoration projects. Expertise and ideas from local landowners, working groups, and other federal, state, county, and private organizations should be solicited and considered in development of projects. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-VG-13: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-VG-13: PPMA: —. PGMA: —. PRMA: —.
A-VG-14: —.	B-VG-14: PPMA: —. PGMA: —.	C-VG-14: PPMA: —.	D-VG-14: PPMA: Consider design features that will contribute to the most favorable conditions for success when planning and implementing rehabilitation projects. Considerations should include: <ul style="list-style-type: none">Careful review of available plant species and their adaptation to the site when developing seed mixes. (Lambert 2005; VegSpec).The impacts of potential climate changes (Miller et al. 2011), consider utilizing the warmer component of a species' current range when selecting native species for restoration (Kramer and Havens 2009).The need to reduce annual grass densities and competition through herbicide, targeted grazing, tillage, prescribed fire, etc. (Pyke 2011).The need to reduce density and competition of perennial grasses and techniques to accomplish this reduction (Pellant and Lysne 2005).	E-VG-14: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-VG-14: PPMA: —. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
			<ul style="list-style-type: none">Techniques to introduce desired species to the site such as drill seeding, broadcast seeding followed by a seed coverage technique, such as harrowing, chaining or livestock trampling, and transplanting container or bare-root seedlingsAssessment of on-site vegetation to ascertain if enough desirable perennial vegetation exists to consider techniques to increase on-site seed production to facilitate an increase in density of desired species.Use of site preparation techniques that retain existing desirable vegetation.Use of "mother plant" techniques or planting of satellite populations of desirable plants to serve as seed sources.The need for post-treatment control of annual grass and other invasive species. The availability of new tools and use of new science and research as it becomes available. <p>PMMA: Same as PPMA.</p> <p>PGMA: Same as PPMA.</p>		
<p>A-VG-15: Recently completed LUPs promote use of native species when conducting restoration activities. This would include restoration projects conducted in areas that have perennial grass cover.</p> <p>Older plans do not include a similar management action.</p>	<p>B-VG-15: PPMA: —.</p> <p>PGMA: —.</p>	<p>C-VG-15: PPMA: —.</p>	<p>D-VG-15: PPMA: —.</p> <p>PMMA: —.</p> <p>PGMA: —.</p>	<p>E-VG-15: Idaho – CHZ: Emphasize the use of native seeds for fuels management treatment based on availability, adaptation (site potential), and probability of success.</p> <p>Idaho – IHZ: Same as Idaho – CHZ.</p> <p>Idaho – GHZ: —.</p> <p>Utah Habitat: —.</p>	<p>F-VG-15: PPMA: —.</p> <p>PGMA: —.</p> <p>PRMA: —.</p>
<p>A-VG-16: —.</p>	<p>B-VG-16: PPMA: —.</p>	<p>C-VG-16: PPMA: —.</p>	<p>D-VG-16: PPMA: —.</p>	<p>E-VG-16: Idaho – CHZ: Reallocate native plant seeds for ESR from outside</p>	<p>F-VG-16: PPMA: —.</p>

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
	PGMA: —.		PMMA: —. PGMA: —.	the Sage-Grouse Management Area and GHZ to this management zone if necessary. Idaho – IHZ: Same as Idaho - CHZ. Idaho – GHZ: —. Utah Habitat: —.	PGMA: —. PRMA: —.
A-VG-17: —.	B-VG-17: PPMA: Prioritize native seed allocation for use in GRSG habitat in years when preferred native seed is in short supply. This may require reallocation of native seed from ESR (BLM) and/or BAER (Forest Service) projects outside of PPMA to those inside it. Use of native plant seeds for ESR or BAER seedings is required based on availability, adaptation (site potential), and probability of success (Richards et al. 1998). Where probability of success or native seed availability is low, nonnative seeds may be used as long as they GRSG habitat conservation objectives (Pyke 2011). Re-establishment of appropriate sagebrush species/subspecies and important understory plants, relative to site potential, shall be the highest priority for rehabilitation efforts. PGMA: —.	C-VG-17: PPMA: Same as Alternative B.	D-VG-17: PPMA: Prioritize native seed allocation for use in GRSG habitat in years when preferred native seed is in short supply. This may require reallocation of native seed from ESR (BLM) and/or BAER (Forest Service) projects outside of PPMA to those inside it. Where probability of success or native seed availability is low, nonnative seeds may be used as long as they meet GRSG habitat conservation objectives (Pyke 2011). Re-establishment of appropriate sagebrush species/subspecies and important understory plants, relative to site potential, shall be the highest priority for rehabilitation efforts. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-VG-17: Idaho – CHZ: Where the probability of obtaining sufficient native seed is low, nonnative seeds may be used provided GRSG habitat objectives are met. Idaho – IHZ: Same as Idaho - CHZ. Idaho – GHZ: —. Utah Habitat: —.	F-VG-17: PPMA: Same as Alternative B. PGMA: —. PRMA: —.
A-VG-18: All LUPs, which are written in accordance with applicable program direction, include management actions that allow the administrating agency to make adjustments to livestock grazing, wild horse and burro management, and travel management on a case-by case basis following restoration activities.	B-VG-18: PPMA: Design post ESR and BAER management to ensure long term persistence of seeded or pre-burn native plants. This may require temporary or long-term changes in livestock grazing, wild horse and burro, and travel management, etc., to achieve and maintain the desired condition of ESR and BAER projects to benefit GRSG (Eiswerth and Shonkwiler 2006). PGMA: —.	C-VG-18: PPMA: Same as Alternative B.	D-VG-18: PPMA: Design post fuel, restoration, and ESR management to ensure long term persistence of seeded or pre-burn native plants. Use chemical, mechanical, and seeding treatments with appropriate plant materials to attempt to stabilize sites and prevent dominance of invasive, annual vegetation, and noxious weeds. Use native plant materials were determined to be appropriate and practical at the project-implementation level. This may require temporary or long-term changes in livestock grazing,	E-VG-18: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-VG-18: PPMA: Same as Alternative B. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
			wild horse and burro, and travel management, fuels and rehabilitation, etc., to achieve and maintain the desired condition of ESR projects to benefit GRSG (Eiswerth and Shonkwiler 2006). PMMA: Same as PPMA. PGMA: Same as PPMA.		
A-VG-19: —.	B-VG-19: PPMA: Consider potential changes in climate (Miller et al. 2011) when proposing post-fire seedings using native plants. Consider seed collections from the warmer component within a species’ current range for selection of native seed. (Kramer and Havens 2009). PGMA: —.	C-VG-19: PPMA: Same as Alternative B.	D-VG-19: PPMA: Consider utilizing the warmer component of a species’ current range where feasible (financially, seed availability, etc.) when selecting native species for restoration and when such a strategy would not jeopardize the success of the seeding. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-VG-19: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-VG-19: PPMA: Same as Alternative B. PGMA: —. PRMA: —.
A-VG-20: —.	B-VG-20: PPMA: —. PGMA: —.	C-VG-20: PPMA: —.	D-VG-20: PPMA: —. PMMA: —. PGMA: —.	E-VG-20: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-VG-20: PPMA: Establish and strengthen networks with seed growers to assure availability of native seed for ESR projects. PGMA: —. PRMA: —.
A-VG-21: All LUPs, which are written in accordance with applicable program direction, include management actions that allow the administering agency to make adjustments to livestock grazing, wild horse and burro management, and travel management on a case-by case basis following restoration activities.	B-VG-21: PPMA: —. PGMA: —.	C-VG-21: PPMA: —.	D-VG-21: PPMA: —. PMMA: —. PGMA: —.	E-VG-21: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-VG-21: PPMA: Post fire recovery must include establishing adequately sized exclosures (free of livestock grazing) that can be used to assess recovery. PGMA: —. PRMA: —.
A-VG-22: All LUPs, which are written in accordance with applicable program direction, include management actions that allow the administering agency to make adjustments to livestock grazing, wild horse and burro management, and travel management on a case-by case basis following restoration activities.	B-VG-22: PPMA: —. PGMA: —.	C-VG-22: PPMA: —.	D-VG-22: PPMA: —. PMMA: —. PGMA: —.	E-VG-22: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-VG-22: PPMA: Livestock grazing should be excluded from burned areas until woody and herbaceous plants achieve GRSG habitat objectives. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<p>A-VG-23: All LUPs, which are written in accordance with applicable program direction, include management actions that allow the administrating agency to make adjustments to livestock grazing, wild horse and burro management, and travel management on a case-by case basis following restoration activities.</p>	<p>B-VG-23: PPMA: —.</p> <p>PGMA: —.</p>	<p>C-VG-23: PPMA: —.</p>	<p>D-VG-23: PPMA: —.</p> <p>PMMA: —.</p> <p>PGMA: —.</p>	<p>E-VG-23: Idaho – Common to All Habitats: —.</p> <p>Utah Habitat: —.</p>	<p>F-VG-23: PPMA: Where burned GRSG habitat cannot be fenced from other unburned habitat, the entire area (e.g., allotment/pasture) should be closed to grazing until recovered.</p> <p>PGMA: —.</p> <p>PRMA: —.</p>
<p>A-VG-24: Most LUPs do not include specific management actions related to seedings.</p> <p>Plans do include generic decisions that allow maintenance of existing range improvements, which includes maintenance of historical seedings.</p> <p>Recently completed LUPs promote use of native species when conducting restoration activities. This would include restoration projects conducted in areas that have perennial grass cover.</p> <p>Older plans do not include a similar management action.</p>	<p>B-VG-24: PPMA: Evaluate the role of existing seedings that are currently composed of primarily introduced perennial grasses in and adjacent to PPMA to determine if they should be restored to sagebrush or habitat of higher quality for GRSG. If these seedings are part of an AMP/Conservation Plan or if they provide value in conserving or enhancing the rest of PPMA, then no restoration would be necessary. Assess the compatibility of these seedings for GRSG habitat or as a component of a grazing system during the land health assessments (or other analyses [Forest Service only]) (Davies et al. 2011).</p> <p>PGMA: —.</p>	<p>C-VG-24: PPMA: —.</p>	<p>D-VG-24: PPMA: Assess the compatibility of existing nonnative seedings for GRSG habitat or as a component of a grazing system or forage reserve during land health assessments (Davies et al. 2011). Evaluate existing seedings currently dominated by introduced perennial grasses in and adjacent to PPMA to determine if they should be diversified with native grasses, forbs, and shrubs, including sagebrush. If these seedings are part of an AMP/Conservation Plan and if they provide value in conserving or enhancing the rest of PPMA, restoration may not be appropriate.</p> <p>PMMA: Same as PPMA.</p> <p>PGMA: Same as PPMA.</p>	<p>E-VG-24: Idaho – Common to All Habitats: —.</p> <p>Utah Habitat: —.</p>	<p>F-VG-24: PPMA: Evaluate the role of existing seedings that are currently composed of primarily introduced perennial grasses in and adjacent to PPMA to determine if they should be restored to sagebrush or habitat of higher quality for GRSG. If these seedings are part of an AMP/Conservation Plan or if they provide value in conserving or enhancing the rest of PPMA, then no restoration would be necessary. Assess the compatibility of these seedings for GRSG habitat or as a component of a grazing system during the land health assessments (Davies et al. 2011).</p> <p>PGMA: —.</p> <p>PRMA: —.</p>
<p>A-VG-25: —.</p>	<p>B-VG-25: PPMA: —.</p> <p>PGMA: —.</p>	<p>C-VG-25: PPMA: —.</p>	<p>D-VG-25: PPMA: —.</p> <p>PMMA: —.</p> <p>PGMA: —.</p>	<p>E-VG-25: Idaho – Common to All Habitats: —.</p> <p>Utah Habitat: —.</p>	<p>F-VG-25: PPMA: Any vegetation treatment plan must include pretreatment data on wildlife and habitat condition, establish non-grazing exclosures, and include long-term monitoring where treated areas are monitored for at least three years before grazing returns. Continue monitoring for five years after livestock are returned to the area, and compare to treated, ungrazed exclosures, as well as untreated areas.</p> <p>PGMA: —.</p> <p>PRMA: —.</p>

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
A-VG-26: Many older LUPs include specific objectives for vegetation treatments that increased desirable forage species for livestock, usually focusing on reducing the sagebrush overstory. More recent LUPs generally prescribe management that moves rangeland communities toward historical vegetative conditions.	B-VG-26: PPMA: —. PGMA: —.	C-VG-26: PPMA: —.	D-VG-26: PPMA: —. PMMA: —. PGMA: —.	E-VG-26: Idaho – CHZ: Initiate vegetative manipulation projects where sagebrush canopy cover exceeds optimal characteristics to promote grass and forb understory growth only where the project can be achieved without negatively impacting GRSG. Idaho – IHZ: Same as Idaho - CHZ. Idaho – GHZ: —. Utah Habitat: —.	F-VG-26: PPMA: —. PGMA: —. PRMA: —.
A-VG-27: All LUPs address vegetation treatments for improvement of wildlife habitat overall or to provide increased forage for wildlife, livestock, and wild horses and burros.	B-VG-27: PPMA: —. PGMA: —.	C-VG-27: PPMA: —.	D-VG-27: PPMA: Implement rehabilitation projects in areas that have the potential to provide for GRSG habitat. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-VG-27: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-VG-27: PPMA: —. PGMA: —. PRMA: —.
A-VG-28: —.	B-VG-28: PPMA: —. PGMA: —.	C-VG-28: PPMA: —.	D-VG-28: PPMA: Make progress toward desired future condition in the Low-elevation Shrub, Perennial Grass, Invasive Annual Grass, Mid-Elevation Shrub, Mountain Shrubs, and Juniper vegetation types. Use chemical, mechanical, seeding, and prescribed fire treatments as appropriate to enhance and restore habitats that are currently in Fire Regime Condition Class (FRCC) 2 and FRCC3. In Perennial Grass, Invasive Annual Grass, and juniper-invaded cover types, restore sagebrush steppe with an aggressive sagebrush seeding effort, using the appropriate sagebrush subspecies for the treatment area. Conduct vegetation treatments in areas that pose a wildland fire risk to GRSG habitats. Treat areas within GRSG habitats that have low resiliency to disturbance (i.e., areas characterized by lower native plant species diversity than expected for the site, undesirable	E-VG-28: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-VG-28: PPMA: —. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
			<p>plant species composition, and dead or decadent sagebrush) to improve long-term habitat suitability for GRSG. Treat GRSG habitat and potential restoration areas to expand PPMA. Improve GRSG potential restoration habitats (perennial grassland, annual grassland, conifer encroachment areas) and maintain or improve sagebrush portions of PPMA. Conduct vegetation treatments (including fuel breaks) in restoration and key habitats to reduce risk of wildland fire and reconnect PPMA. Make progress toward Desired Future Condition in historically frequent fire regimes (Aspen/Conifer, Dry Conifer, Mid-Elevation Shrub encroached by juniper, Mountain Shrub by increasing wildfire managed for LUP objectives and prescribed fire to create a fire regime within the historical range of variability. Use mechanical and chemical treatments to prepare areas in FRCC2 and FRCC3 for prescribed fire. Monitor and control invasive vegetation post-treatment. Rest treated areas from grazing or modify grazing until vegetation objectives have been met. Ensure that any proposed sagebrush treatment acreage is conservative in the context of surrounding seasonal habitats and landscape. Monitor and if necessary control invasive vegetation post-treatment.</p> <p>PMMA: Same as PPMA.</p> <p>PGMA: Same as PPMA.</p>		
A-VG-29: Allow treatments that provide benefits for multiple resources. Additional forage will be appropriated to livestock, wild horses and burros (where applicable), and wildlife.	B-VG-29: PPMA: Only allow treatments that conserve, enhance or restore GRSG habitat (this includes treatments that benefit livestock as part of an AMP/Conservation Plan to improve GRSG habitat).	C-VG-29: PPMA: —.	D-VG-29: PPMA: —. PMMA: —. PGMA: —.	E-VG-29: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-VG-29: PPMA: Ensure that vegetation treatments Restore native (or desirable) plants and create landscape patterns which most benefit GRSG. Only allow treatments that conserve, enhance, or restore GRSG habitat are demonstrated to benefit GRSG and

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
	PGMA: —.				retain sagebrush height and cover consistent with GRSG habitat objectives (this includes treatments that benefit livestock as part of an AMP/Conservation Plan to improve GRSG habitat). PGMA: —. PRMA: —.
A-VG-30: —.	B-VG-30: PPMA: —. PGMA: —.	C-VG-30: PPMA: —.	D-VG-30: PPMA: —. PMMA: —. PGMA: —.	E-VG-30: Idaho – Common to All Habitats: The State will establish a mitigation bank of GRSG habitation restoration projects that future development projects would repay through compensatory mitigation requirements. Utah Habitat: —.	F-VG-30: PPMA: —. PGMA: —. PRMA: —.
Integrated Invasive Species					
A-IIS-1: Implement noxious weed and invasive species control using integrated weed management actions per national guidance and local weed management plans in cooperation with State and Federal agencies, affected counties, and adjoining private lands owners. In most LUPs, either no priorities are established or prioritization is given to projects that benefit multiple resources (e.g., livestock, wildlife, wild horses and burros, special status species). Montana BLM: Implement noxious weed and invasive species control, using integrated weed management, in cooperation with state and federal agencies, counties, and private landowners (ROD, p. 49, Action 11.). Emphasize control of invasive weeds in occupied GRSG breeding habitat	B-IIS-1: PPMA: Integrated Vegetation Management would be used to control, suppress, and eradicate, where possible, noxious and invasive species per BLM Handbook H-1740-2. PGMA: —.	C-IIS-1: PPMA: —.	D-IIS-1: PPMA: Implement integrated weed management actions for noxious and invasive weed populations that are impacting or threatening GRSG habitat quality. In concert with partners and/or weed management areas as appropriate apply education, inventory, prevention, control, rehabilitation, and monitoring strategies that protect or enhance GRSG habitat. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-IIS-1: Idaho – CHZ: Actively manage exotic undesirable species sufficiently to limit presence and prevent invasion. Idaho – IHZ: Actively manage exotic undesirable species to limit presence and prevent invasion in the CHZ without impairing GRSG populations. Idaho – GHZ: Aggressively manage exotic undesirable species in conjunction with coordinated weed management areas to limit presence and prevent invasion into other management zones. Montana Habitat: Same as Alternative A. Utah Habitat: Aggressively respond to new infestations to keeping invasive species from spreading. Every effort should be made to identify and treat	F-IIS-1: PPMA: —. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
				new infestations before they become larger problems. Containment of known infestations in or near sagebrush habitats should be a high priority for all land management agencies.	
A-IIS-2: —.	B-IIS-2: PPMA: —. PGMA: —.	C-IIS-2: PPMA: —.	D-IIS-2: PPMA: —. PMMA: —. PGMA: —.	E-IIS-2: Idaho – CHZ: Control invasive vegetation within post-wildfire treatment areas for at least three years post treatment. Idaho – IHZ: Same as Idaho - CHZ. Idaho – GHZ: —. Utah Habitat: Immediate, proactive means to reduce or eliminate the spread of invasive species, particularly cheatgrass, after a wildfire, is a high priority.	F-IIS-2: PPMA: —. PGMA: —. PRMA: —.
A-IIS-3: Implement noxious weed and invasive species control using integrated weed management actions per national guidance and local weed management plans in cooperation with State and Federal agencies, affected counties, and adjoining private lands owners.	B-IIS-3: PPMA: —. PGMA: —.	C-IIS-3: PPMA: —.	D-IIS-3: PPMA: —. PMMA: —. PGMA: —.	E-IIS-3: Idaho – CHZ: —. Idaho – IHZ: Eradicate or control noxious weeds and/or invasive species posing a risk to GRSG habitats using a variety of chemical, mechanical and other appropriate means in coordination with the local Cooperative Weed Management Area. Idaho – GHZ: Same as IHZ. Utah Habitat: —.	F-IIS-3: PPMA: —. PGMA: —. PRMA: —.
A-IIS-4: Implement noxious weed and invasive species control using integrated weed management actions per national guidance and local weed management plans in cooperation with State and Federal agencies, affected counties, and adjoining private lands owners.	B-IIS-4: PPMA: Monitor for, and treat invasive species associated with existing range improvements (Gelbard and Belnap 2003; Bergquist et al. 2007). PGMA: —.	C-IIS-4: PPMA: —.	D-IIS-4: PPMA: —. PMMA: —. PGMA: —.	E-IIS-4: Idaho – CHZ: Treat and monitor invasive species associated with existing range improvements. Idaho – IHZ: Same as Idaho - CHZ. Idaho – GHZ: —. Utah Habitat: —.	F-IIS-4: PPMA: Same as Alternative B. PGMA: —. PRMA: —.
A-IIS-5: —.	B-IIS-5: PPMA: —. PGMA: —.	C-IIS-5: PPMA: —.	D-IIS-5: PPMA: Following project construction treat noxious weeds and invasive species, establish desirable perennial vegetation to compete with	E-IIS-5: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-IIS-5: PPMA: —. PGMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
			invasive species on disturbed areas, and monitor and continue treating the project area for noxious weed and invasive species for at least 3 years, unless control is achieved earlier. PMMA: Same as PPMA. PGMA: Same as PPMA.		PRMA: —.
Wild Horse and Burro					
A-WHB-1: Prepare or amend herd management area plans on an as-needed basis.	B-WHB-1: PPMA: Develop or amend BLM Herd Management Area Plans and Forest Service Wild Horse Territory Plans to incorporate GRSG habitat objectives and management considerations for all BLM HMAs) and Forest Service Wild Horse Territories. PGMA: —.	C-WHB-1: PPMA: Same as Alternative A.	D-WHB-1: PPMA: Same as Alternative B. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-WHB-1: Idaho – Common to All Habitats: —. Utah Habitat: Same as Alternative A.	F-WHB-1: PPMA: Reduce AMLs within HMAs within occupied GRSG habitat by 25 percent to meet habitat objectives. PGMA: Same as PPMA PRMA: —.
A-WHB-2: Periodically evaluate and make adjustments to AMLs based on monitoring data.	B-WHB-2: PPMA: For all BLM HMAs and Forest Service Wild Horse Territories within PPMA, prioritize the evaluation of all AMLs based on indicators that address structure/condition/composition of vegetation and measurements specific to achieving GRSG habitat objectives. PGMA: —.	C-WHB-2: PPMA: Same as Alternative A.	D-WHB-2: PPMA: When evaluating AML on HMAs within PPMA, evaluate indicators that address structure/condition/composition of vegetation and measurements specific to achieving GRSG habitat objectives. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-WHB-2: Idaho – Common to All Habitats: —. Utah Habitat: Same as Alternative A.	F-WHB-2: PPMA: —. PGMA: —. PRMA: —.
A-WHB-3: —.	B-WHB-3: PPMA: Coordinate with other resources (Range, Wildlife, and Riparian) to conduct land health assessments to determine existing structure/condition/composition of vegetation within all BLM HMAs and Forest Service Wild Horse Territories. PGMA: —.	C-WHB-3: PPMA: Same as Alternative A.	D-WHB-3: PPMA: Utilize interdisciplinary land health assessments in HMAs containing GRSG habitat to determine whether vegetation characteristics are meeting appropriate seasonal habitat objectives. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-WHB-3: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-WHB-3: PPMA: Same as Alternative B. PGMA: —. PRMA: —.
A-WHB-4: —.	B-WHB-4: PPMA: —. PGMA: —.	C-WHB-4: PPMA: —.	D-WHB-4: PPMA: Do not expand HMAs. PMMA: Analysis of proposed additions to existing HMA boundaries	E-WHB-4: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-WHB-4: PPMA: —. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
			should consider the direct, indirect and cumulative impacts on GRSG habitat, including the need for additional infrastructure such as boundary fencing, and consider alternative areas outside of PPMA and PMMA. PGMA: —.		
A-WHB-5: —.	B-WHB-5: PPMA: When conducting NEPA analysis for wild horse and burro management activities, water developments or other rangeland improvements for wild horses in PPMA, address the direct and indirect effects on GRSG populations and habitat. Implement any water developments or rangeland improvements using the criteria identified for domestic livestock identified above in PPMA. PGMA: —.	C-WHB-5: PPMA: —.	D-WHB-5: PPMA: Refer to livestock grazing actions for guidance on water and rangeland developments for wild horse management. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-WHB-5: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-WHB-5: PPMA: Same as Alternative B. PGMA: —. PRMA: —.
Wildland Fire					
General					
A-WFM-1: Follow BMPs for fire and fuels (BLM Washington Office IM 2013-128, see Appendix C).	B-WFM-1: PPMA: Follow RDFs for fire and fuels (BLM Washington Office IM 2013-128 and Forest Service Washington Office letter 5100, see Appendix C). PGMA: —.	C-WFM-1: PPMA: Same as Alternative B.	D-WFM-1: PPMA: Same as Alternative B. PMMA: BMPs in PPMA would apply to both PMMA and PGMA. PGMA: BMPs in PPMA would apply to both PMMA and PGMA.	E-WFM-1: Idaho – CHZ: Reduce the number and size of wildfires in GRSG habitat through incorporation of the BLM Washington Office IM 2013-128. Idaho – IHZ: Same as Idaho - CHZ. Idaho – GHZ: Same as Idaho - CHZ. Utah Habitat: —.	F-WFM-1: PPMA: Same as Alternative B. PGMA: —. PRMA: —.
A-WFM-2: —.	B-WFM-2: PPMA: —. PGMA: —.	C-WFM-2: PPMA: Lands will be managed to be in good or better ecological condition to help minimize adverse impacts of fire.	D-WFM-2: PPMA: —. PMMA: —. PGMA: —.	E-WFM-2: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-WFM-2: PPMA: —. PGMA: —. PRMA: —.
A-WFM-3: —.	B-WFM-3: PPMA: —. PGMA: —.	C-WFM-3: PPMA: —..	D-WFM-3: PPMA: —. PMMA: —. PGMA: —.	E-WFM-3: Idaho – CHZ: Decrease wildfire response time through: a. Prioritizing, maintaining and improving a high initial attack success rate in suppression response and	F-WFM-3: PPMA: —. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
				<p>staging decisions;</p> <p>b. Utilizing available Sage-Grouse Management Area maps and spatial data depicting GRSG habitats within this zone in accordance with action 31 (Appendix D);</p> <p>c. Redeploying firefighting resources not being fully utilized outside the SGMA to the extent such redeployment will not cause harm to human safety and structure protection; and</p> <p>d. Requesting the necessary federal appropriations to achieve this objective.</p> <p>Develop a consistent wildfire suppression plan that improves upon the current baseline, and a fuel and restoration strategy within 1 year of the ROD.</p> <p>Idaho – IHZ: Same as Idaho- CHZ.</p> <p>Idaho – GHZ: —.</p> <p>Utah Habitat: —.</p>	
A-WFM-4: —.	B-WFM-4: PPMA: —. PGMA: —.	C-WFM-4: PPMA: —.	D-WFM-4: PPMA: Use knowledgeable resource advisors during extended attack. Resource Advisors should also be available on short notice during red flag conditions. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-WFM-4: Idaho Common to All Habitats: —. Utah Habitat: —.	F-WFM-4: PPMA: —. PGMA: —. PRMA: —.
A-WFM-5: —.	B-WFM-5: PPMA: —. PGMA: —.	C-WFM-5: PPMA: —.	D-WFM-5: PPMA: During high fire danger conditions, stage initial attack and secure additional resources closer to the Idaho Desert, Southern Idaho, and Owyhee populations to ensure quicker response times in or near GRSG habitat. PMMA: —. PGMA: —.	E-WFM-5: Idaho -- Common to All Habitats: —. Utah Habitat: —.	F-WFM-5: PPMA: —. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
A-WFM-6: —.	B-WFM-6: PPMA: —. PGMA: —.	C-WFM-6: PPMA: —.	D-WFM-6: PPMA: —. PMMA: Follow Standard procedures described in Fire Management Plan. PGMA: —.	E-WFM-6: Idaho -- Common to All Habitats: —. Utah Habitat: —.	F-WFM-6: PPMA: —. PGMA: —. PRMA: —.
A-WFM-7: —.	B-WFM-7: PPMA: —. PGMA: —.	C-WFM-7: PPMA: —.	D-WFM-7: PPMA: Consider conifer (juniper) encroachment areas as areas to manage wildfire for resource benefit. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-WFM-7: Idaho -- Common to All Habitats: —. Utah Habitat: —.	F-WFM-7: PPMA: —. PGMA: —. PRMA: —.
A-WFM-8: —.	B-WFM-8: PPMA: —. PGMA: —.	C-WFM-8: PPMA: —.	D-WFM-8: PPMA: —. PMMA: —. PGMA: —.	E-WFM-8: Idaho – Common to All Habitats: Reduce the number and size of wildfires, especially in the West Owyhee CA, by marshaling existing and targeting future federal resources. Idaho – CHZ: Utilize and employ more aggressive wildfire and invasive species management practices to prevent further encroachment of these two primary threats into CHZ on Federal lands. Idaho – IHZ: Same as Idaho - CHZ. Idaho – GHZ: —. Utah Habitat: Create and implement a statewide fire agency agreement(s) that will eliminate jurisdictional boundaries and allow for immediate response to natural fire in PPMA. These should include fire suppression actions recommended locally, including, but not limited to: <ul style="list-style-type: none">• first strike agreements that allow aggressive fire control on an all-land jurisdictional basis;• allocation of resources to maintain enhanced abilities of all fire agencies to combat ignitions in PPMA.	F-WFM-8: PPMA: —. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
				<ul style="list-style-type: none">• allocation of resources to immediately commence restoration of habitats impacted by wildfire by all responsible agencies; and• removal or establishment of waiver provisions for procedural barriers that may impact the ability of responsible agencies to respond to wildfire with effective reclamation or rehabilitation, such as federal raptor stipulations, cultural assessments, and the like.	
A-WFM-9: —.	B-WFM-9: PPMA: —. PGMA: —.	C-WFM-9: PPMA: —.	D-WFM-9: PPMA: BLM and Forest Service planning units (Districts and Forests), in coordination with the USFWS and relevant state agencies, would complete and continue to update GRSG Landscape Wildfire and Invasive Species Habitat Assessments to prioritize at risk habitats, and identify fuels management, preparedness, suppression and restoration priorities necessary to maintain sagebrush habitat to support interconnecting GRSG populations. These assessments and subsequent assessment updates would also be a coordinated effort with an interdisciplinary team to take into account other GRSG priorities identified in this plan. Appendix K describes a minimal framework example and suggested approach for this assessment. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-WFM-9: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-WFM-9: PPMA: —. PGMA: —. PRMA: —.
A-WFM-10: —.	B-WFM-5: PPMA: —. PGMA: —.	C-WFM-10: PPMA: —.	D-WFM-10: PPMA: Implementation actions will be tiered to the Local (District/Forest) GRSG Landscape Wildfire and Invasive Species Assessment described in D-WFM-1, utilizing best available science related to	E-WFM-10: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-WFM-10: PPMA: —. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
			the conservation of GRSG. PMMA: Same as PPMA. PGMA: Same as PPMA.		
A-WFM-11: —.	B-WFM-11: PPMA: —. PGMA: —.	C-WFM-11: PPMA: —.	D-WFM-11: PPMA: In coordination with the USFWS and relevant state agencies, BLM and Forest Service planning units (Districts/Forests) will identify annual treatment needs for wildfire and invasive species management as identified in local unit level Landscape Wildfire and Invasive Species Assessments. Annual treatment needs will be coordinated across state/regional scales and across jurisdictional boundaries for long-term conservation of GRSG. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-WFM-11: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-WFM-11: PPMA: —. PGMA: —. PRMA: —.
A-WFM-12: —.	A-WFM-12: PPMA: —. PGMA: —.	C-WFM-12: PPMA: —.	D-WFM-12: PPMA: Annually complete a review of landscape assessment implementation efforts with appropriate USFWS and state agency personnel. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-WFM-12: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-WFM-12: PPMA: —. PGMA: —. PRMA: —.
Fuels Management					
A-FM-1: Under current management, there is no designated GRSG habitat. Design projects to minimize the size of wildfire and prevent the further loss of sagebrush. Existing LUPs typically do not include specific management decisions regarding implementation of fuels treatments in sagebrush habitat. In general, both prescribed fire and non-fire fuels treatments are allowed.	B-FM-1: PPMA: Design and implement fuels treatments with an emphasis on protecting existing sagebrush ecosystems. Do not reduce sagebrush canopy cover to less than 15% (Connelly et al. 2000, Hagen et al. 2007) unless a fuels management objective requires additional reduction in sagebrush cover to meet strategic protection of PPMA and conserve habitat quality for the species. Closely evaluate the benefits of the fuel break against the additional loss of sagebrush	C-FM-1: PPMA: Same as Alternative B.	D-FM-1: PPMA: Design and implement fuels treatments with an emphasis on maintaining, protecting, and expanding sagebrush ecosystems and successfully rehabilitated areas and strategically and effectively reduce wildfire threats in the greatest area. Enhance (or maintain/retain) sagebrush canopy cover and community structure to match expected potential for the ecological site and consistent with GRSG habitat objectives unless fuels management objectives requires	E-FM-1: Idaho – CHZ: Implementation of specific, more aggressive wildlife and invasive species management practices to prevent further encroachment into the CHZ should be driven by local planning efforts at the field office and ranger district level. Idaho – IHZ: Same as Idaho - CHZ. Idaho – GHZ: —.	F-FM-1: PPMA: Design and implement fuels treatments with an emphasis on protecting existing sagebrush ecosystems. Do not reduce sagebrush canopy cover to less than 15% (Connelly et al. 2000, Hagen et al. 2007) unless a fuels management objective requires additional reduction in sagebrush cover to meet strategic protection of PPMA and conserve habitat quality for the species. Closely evaluate the benefits of the fuel break against the additional loss of sagebrush

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Montana BLM: Restore and maintain desired ecological conditions and fuel loadings. Evaluate benefits against loss of sagebrush in EA process. Do not burn Wyoming sagebrush.	cover in future NEPA documents. Apply appropriate seasonal restrictions for implementing fuels management treatments according to the type of seasonal habitats present in PPMA. Allow no fuels treatments in known winter range unless the treatments are designed to strategically reduce wildfire risk around or in the winter range and will maintain winter range habitat quality. Do not use fire to treat sagebrush in less than 12-inch precipitation zones (e.g., Wyoming big sagebrush or other xeric sagebrush species; Connelly et al. 2000, Hagen et al. 2007, Beck et al. 2009). However, if as a last resort and after all other treatment opportunities have been explored and site specific variables allow, the use of prescribed fire for fuel breaks that would disrupt the fuel continuity across the landscape could be considered, in stands where cheatgrass is a very minor component in the understory (Brown 1982). Monitor and control invasive vegetation post-treatment. Rest treated areas from grazing for two full growing seasons unless vegetation recovery dictates otherwise (WGFD 2011). Require use of native seeds for fuels management treatment based on availability, adaptation (site potential), and probability of success (Richards et al. 1998). Where probability of success or native seed availability is low, nonnative seeds may be used as long as they meet GRSG habitat objectives (Pyke 2011). Design post fuels management projects to ensure long term persistence of seeded or pre-treatment native plants. This may require temporary or long-term changes in livestock grazing management, wild horse and burro		additional reduction in sagebrush cover to meet strategic protection of GRSG habitat. Closely evaluate the benefits of the fuel management treatments against the additional loss of sagebrush cover on the local landscape in the NEPA process. Apply appropriate seasonal restrictions for implementing fuels management treatments according to the type of seasonal habitats present in PPMA. Allow no treatments in known winter range unless the treatments are designed to strategically reduce wildfire risk around and/or in the winter range and will maintain, increase, or enhance winter range habitat quality. Ensure chemical applications are utilized where they would assist in success of fuels treatments. Strategically place treatments on a landscape scale to prevent fire from spreading into PPMA or WUI. PMMA: Same as PPMA. PGMA: Same as PPMA.	Montana Habitat: Same as Alternative A. Utah Habitat: Habitat loss due to fire and replacement of (burned) native vegetation by invasive plants is the single greatest threat to GRSG in Utah. While unscheduled fires may occur, response to fire can have a large impact on the severity of the effects, especially over time as rehabilitation or restoration continues. Implement the following: <ul style="list-style-type: none">• Create and implement a statewide fire agency agreement(s) that will eliminate jurisdictional boundaries and allow for immediate response to natural fire in PPMA.• Allow use of fire-retardant vegetation that will buffer areas of high quality GRSG habitat from catastrophic fire.• Use prescriptive fire with caution in sagebrush habitat. The WAFWA has prepared information that explains the risks from using prescribed fire in xeric sagebrush habitats.• Prescribed fire should only be used at higher elevations and in a manner designed prescriptively to benefit GRSG.• Conduct effective research into controlling fire size and protecting remaining GRSG areas that are adjacent to high-risk cheatgrass areas.• Focus research efforts on effective reclamation and restoration of landscapes altered by wildfire.• Within winter habitat, manage to maintain maximum amount of sagebrush, especially tall sagebrush, which would be	cover in the EA process. Apply appropriate seasonal restrictions for implementing fuels management treatments according to the type of seasonal habitats present in PPMA. Allow no fuels treatments in known winter range unless the treatments are designed to strategically reduce wildfire risk around or in the winter range and will maintain winter range habitat quality. Do not use fire to treat sagebrush in less than 12-inch precipitation zones (e.g., Wyoming big sagebrush or other xeric sagebrush species; Connelly et al. 2000, Hagen et al. 2007, Beck et al. 2009). However, if as a last resort and after all other treatment opportunities have been explored and site specific variables allow, the use of prescribed fire for fuel breaks that would disrupt the fuel continuity across the landscape could be considered, in stands where cheatgrass is a very minor component in the understory (Brown 1982). Monitor and control invasive vegetation post-treatment. Rest treated areas from grazing for two full growing seasons unless vegetation recovery dictates otherwise (WGFD 2011). Require use of native seeds for fuels management treatment based on availability, adaptation (site potential), and probability of success (Richards et al. 1998). Where probability of success or native seed availability is low, nonnative seeds may be used as long as they meet GRSG habitat objectives (Pyke 2011). Design post fuels management projects to ensure long term persistence of seeded or pre-treatment native plants, including sagebrush. This may require temporary or long-term changes in livestock grazing management, wild

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
	management, travel management, or other activities to achieve and maintain the desired condition of the fuels management project (Eiswerth and Shonkwiler 2006). PGMA: —.			available to GRSG above snow during a severe winter. Tall sagebrush is capable of standing above heavier than normal snowfall. <ul style="list-style-type: none">• Sagebrush treatment projects within winter habitat need pre-approval by the appropriate regulatory agency in coordination with the Utah Department of Wildlife Resources. Sagebrush treatment projects within winter habitat should maintain 80% of the available habitat as tall sagebrush; 20% of the habitat can be managed for younger age classes, if appropriate.• Coordinate the needs and efforts related to GRSG with the State of Utah committee that was formed to develop a collaborative process to protect the health and welfare by reducing the size and frequency of catastrophic fires.	horse and burro management, travel management, or other activities to achieve and maintain the desired condition of the fuels management project (Eiswerth and Shonkwiler 2006). PGMA: —. PRMA: —.
A-FM-2: Design projects to minimize the size of wildfire and prevent the further loss of sagebrush.	B-FM-2: PPMA: Design fuels management projects in PPMA to strategically and effectively reduce wildfire threats in the greatest area. This may require fuels treatments implemented in a more linear versus block design (Launchbaugh et al. 2007). PGMA: —.	C-FM-2: PPMA: Same as Alternative B.	D-FM-2: PPMA: —. PMMA: —. PGMA: —.	E-FM-2: Idaho – CHZ: Fuel break prioritization should be in areas within the WUI where human life and safety are at risk. Fuel break projects should be designed to secure the WUI and free up firefighting resources to be focused on providing initial attack on wildfires in areas that have the potential to impact GRSG within the CHZ and IHZ. Prioritization of fuel breaks should then go to areas of high human ignition. Idaho – IHZ: Same as Idaho -CHZ. Idaho – GHZ: —. Utah Habitat: —.	F-FM-2: PPMA: —. PGMA: —. PRMA: —.
A-FM-3: —.	B-FM-3: PPMA: —. PGMA: —.	C-FM-3: PPMA: —.	D-FM-3: PPMA: —. PMMA: Same as PPMA.	E-FM-3: Idaho – CHZ: —. Idaho – IHZ: Create and maintain	F-FM-3: PPMA: —. PGMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
			PGMA: Same as PPMA.	<p>effective fuel breaks in strategic locations that will modify fire behavior and increase fire suppression effectiveness through:</p> <p>a. Establishing fuel breaks along existing roads or other disturbances.</p> <p>b. Identifying and targeting higher-risk roads for fuel break construction and maintenance based on fire history maps.</p> <p>c. Implementing a strategic approach to using these roads for rapid fire response.</p> <p>d. Closely evaluating the benefits of the fuel break against the additional loss of sagebrush cover and risk of invasive weeds.</p> <p>e. Maintaining fire breaks properly.</p> <p>Idaho – GHZ: Create and maintain effective fuel breaks in strategic locations that will modify fire behavior and increase fire suppression effectiveness through targeting areas necessary to provide a buffer between GHZ and the other management zones:</p> <p>a. Establishing fuel breaks along existing roads or other disturbances.</p> <p>b. Identifying and targeting higher-risk roads for fuel break construction and maintenance based on fire history maps.</p> <p>c. Implementing a strategic approach for using these roads to enable rapid fire response.</p> <p>d. Maintaining fuel breaks properly and siting with consideration of active leks and risk of invasive weeds.</p> <p>Utah Habitat: —.</p>	PRMA: —.
A-FM-4: —.	B-FM-4: PPMA: —. PGMA: —.	C-FM-4: PPMA: —.	D-FM-4: PPMA: —. PMMA: —.	E-FM-4: Idaho – CHZ: —. Idaho – IHZ: Coordinate with Federal, State and local jurisdictions on	F-FM-4: PPMA: —. PGMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
			PGMA: —.	fire and litter prevention programs to reduce human caused ignitions. Idaho – GHZ: —. Utah Habitat: —.	PRMA: —.
A-FM-5: Design fuels treatment projects to minimize the size of wildfire and prevent the further loss of sagebrush.	B-FM-5: PPMA: —. PGMA: —.	C-FM-5: PPMA: Mowing of grass will be used in any fuel break fuels reduction project (roadsides or other areas).	D-FM-5: PPMA: —. PMMA: —. PGMA: —.	E-FM-5: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-FM-5: PPMA: —. PGMA: —. PRMA: —.
A-FM-6: —.	B-FM-6: PPMA: During fuels management project design, consider the utility of using livestock to strategically reduce fine fuels (Diamond et al. 2009), and implement grazing management that will accomplish this objective (Davies et al. 2011, Launchbaugh et al. 2007). Consult with ecologists to minimize impacts on native perennial grasses. PGMA: —.	C-FM-6: PPMA: Same as Alternative B.	D-FM-6: PPMA: Grazing to achieve fuels management objectives should conform to the following criteria: <ul style="list-style-type: none">Grazing management should be implemented strategically on the landscape, and directly involve the minimum footprint and grazing intensity required to meet fuels management objectives.Conform to the Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management in areas where the Standards apply.Coordinate with the permittee to coordinate fuels reduction by livestock within the Mandatory Terms and Conditions of the applicable grazing authorizations However, in some cases targeted grazing may be authorized or contracted to a non-permit holder to achieve desired fuels reduction.Use the appropriate kind and number of animals at the appropriate season, considering vegetation palatability and livestock preferences, to reduce targeted fuels types. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-FM-6: Idaho – CHZ: Prescribe or target livestock grazing where demonstrated to be appropriate as a tool for reducing fuel loads, reducing invasive species populations and maintaining functional fire breaks and testing the effectiveness and monitoring the results on a site-specific basis through stewardship contracting. Idaho – IHZ: Same as Idaho – CHZ. Idaho – GHZ: Prescribe or target livestock grazing as a primary tool for reducing fuel loads, reducing invasive species populations and maintaining functional fire breaks to the extent such activities do not adversely affect breeding habitats (i.e., occupied leks, nesting and early brood-rearing). Utah Habitat: Consider the use of prescriptive grazing to specifically reduce fire size and intensity on all types of landownership, where appropriate. This could be particularly effective in areas where cheatgrass is encroaching on sagebrush habitat. This will require cooperation and coordination among different land managers and owners and livestock owners. In some cases feed supplementation and water hauling may need to be utilized to obtain the desired results.	F-FM-6: PPMA: —. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
A-FM-7: —.	B-FM-7: PPMA: —. PGMA: —.	C-FM-7: PPMA: —.	D-FM-7: PPMA: Existing and proposed linear ROWs could be considered for use and maintenance as vegetated fuel breaks in appropriate areas to meet fire management goals and objectives. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-FM-7: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-FM-7: PPMA: —. PGMA: —. PRMA: —.
A-FM-8: —.	B-FM-8: PPMA: —. PGMA: —.	C-FM-8: PPMA: —.	D-FM-8: PPMA: Where appropriate fuel breaks would incorporate existing vegetation treatments (seedings) or be located adjacent to existing linear disturbance areas. Fuel breaks should be placed in areas with the greatest likelihood of intersecting a fire and protecting existing intact habitat. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-FM-8: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-FM-8: PPMA: —. PGMA: —. PRMA: —.
A-FM-9: —.	B-FM-9: PPMA: —. PGMA: —.	C-FM-9: PPMA: —.	D-FM-9: PPMA: Strategically pre-treat areas to reduce fine fuels through mechanical treatments, grazing strategies, chemical or biological application (brown stripping). PMMA: Same as PPMA. PGMA: Same as PPMA.	E-FM-9: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-FM-9: PPMA: —. PGMA: —. PRMA: —.
A-FM-10: —.	B-FM-10: PPMA: —. PGMA: —.	C-FM-10: PPMA: —.	D-FM-10: PPMA: —. PMMA: —. PGMA: —.	E-FM-10: Idaho – CHZ: —. Idaho – IHZ: Develop more aggressive strategies to reduce fuel loads, where appropriate. Idaho – GHZ: —. Utah Habitat: —.	F-FM-10: PPMA: —. PGMA: —. PRMA: —.
A-FM-11: —.	B-FM-11: PPMA: —. PGMA: —.	C-FM-11: PPMA: —.	D-FM-11: PPMA: Implement as “required design features”, the measures identified in Appendix K .	E-FM-11: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-FM-11: PPMA: —. PGMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
			PMMA: Same as PPMA. PGMA: Same as PPMA.		PRMA: —.
A-FM-12: —.	B-FM-12: PPMA: —. PGMA: —.	C-FM-12: PPMA: Any fuels treatments will focus on interfaces with human habitation or significant existing disturbances.	D-FM-12: PPMA: Fuel treatments will be designed though an interdisciplinary process to expand, enhance, maintain, and protect GRSG habitat. Use green strips and/or fuel breaks, where appropriate, to protect seeding efforts from subsequent fire events. In coordination with the USFWS and relevant state agencies, BLM and Forest Service planning units (Districts/Forests) with large blocks of GRSG habitat will develop, using the assessment process described in Appendix K , a fuels management strategy which considers an up-to-date fuels profile, land use plan direction, current and potential habitat fragmentation, sagebrush and GRSG ecological factors, and active vegetation management steps to provide critical breaks in fuel continuity, where appropriate. When developing this strategy, planning units will consider the risk of increased habitat fragmentation from a proposed action versus the risk of large scale fragmentation posed by wildfires if the action is not taken. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-FM-12: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-FM-12: PPMA: —. PGMA: —. PRMA: —.
A-FM-13: —.	B-FM-13: PPMA: —. PGMA: —.	C-FM-13: PPMA: —.	D-FM-13: PPMA: Utilizing an interdisciplinary approach, a full range of fuel reduction techniques will be available. Fuel reduction techniques such as grazing, prescribed fire, chemical, biological and mechanical treatments are acceptable. PMMA: Same as PPMA.	E-FM-13: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-FM-13: PPMA: —. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
			PGMA: Same as PPMA.		
A-FM-14: —.	B-FM-14: PPMA: —. PGMA: —.	C-FM-14: PPMA: —.	D-FM-14: PPMA: Prioritize the use of native seeds for fuels management treatment based on availability, adaptation (site potential), and probability of success. Where probability of success or native seed availability is low, nonnative seeds may be used to meet GRSG habitat objectives to trend toward restoring the fire regime. When reseeding, use fire resistant native and nonnative species, as appropriate, to provide for fuel breaks. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-FM-14: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-FM-14: PPMA: —. PGMA: —. PRMA: —.
A-FM-15: —.	B-FM-15: PPMA: —. PGMA: —.	C-FM-15: PPMA: —.	D-FM-15: PPMA: Upon project completion, monitor and manage fuels projects to ensure long-term success, including persistence of seeded species and/or other treatment components. Control invasive vegetation post-treatment. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-FM-15: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-FM-15: PPMA: —. PGMA: —. PRMA: —.
A-FM-16: —.	B-FM-16: PPMA: —. PGMA: —.	C-FM-16: PPMA: —.	D-FM-16: PPMA: Apply seasonal restriction, as needed, for implementing fuels management treatments according to the type of seasonal habitat present. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-FM-16: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-FM-16: PPMA: —. PGMA: —. PRMA: —.
Preparedness					
A-PRE-1: —.	B-PRE-1: PPMA: —. PGMA: —.	C-PRE-1: PPMA: —.	D-PRE-1: PPMA: Implement as “required design features”, the measures identified in Appendix K . PMMA: Same as PPMA.	E-PRE-1: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-PRE-1: PPMA: —. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
			PGMA: Same as PPMA.		
A-PRE-2: —.	B-PRE-2: PPMA: —. PGMA: —.	C-PRE-2: PPMA: —.	D-PRE-2: PPMA: Implement a coordinated inter-agency approach to fire restrictions based upon National Fire Danger Rating System thresholds (fuel conditions, drought conditions and predicted weather patterns) for GRSG habitat. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-PRE-2: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-PRE-2: PPMA: —. PGMA: —. PRMA: —.
A-PRE-3: —.	B-PRE-3: PPMA: —. PGMA: —.	C-PRE-3: PPMA: —.	D-PRE-3: PPMA: Develop wildfire prevention plans that explain the resource value of GRSG habitat and include fire prevention messages and actions to reduce human-caused ignitions. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-PRE-3: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-PRE-3: PPMA: —. PGMA: —. PRMA: —.
Fire Management (Suppression)					
A-SUP-1: —.	B-SUP-1: PPMA: —. PGMA: —.	C-SUP-1: PPMA: —.	D-SUP-1: PPMA: Implement as “required design features”, the measures identified in Appendix K . PMMA: Same as PPMA. PGMA: Same as PPMA.	E-SUP-1: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-SUP-1: PPMA: —. PGMA: —. PRMA: —.
A-SUP-2: Firefighter and public safety are the highest priority. GRSG habitat will be prioritized commensurate with property values and other critical habitat to be protected, with the goal to restore, enhance, and maintain areas suitable for GRSG. Montana BLM: Emphasis on firefighter and public safety. Decisions based on relative values to be protected commensurate with fire management costs.	B-SUP-2: PPMA: Same as Alternative A. PGMA: Same as PPMA.	C-SUP-2: PPMA: Same as Alternative A.	D-SUP-2: PPMA: Same as Alternative A. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-SUP-2: Idaho – Common to All Habitats: Same as Alternative A. Montana Habitat: Same as Alternative A. Utah Habitat: Same as Alternative A.	F-SUP-2: PPMA: Same as Alternative A. PGMA: Same as PPMA. PRMA: Same as PPMA.
A-SUP-3: Montana BLM:	B-SUP-3: PPMA: —.	C-SUP-3: PPMA: —.	D-SUP-3: PPMA: Within GRSG,	E-SUP-3: Idaho – Common to All	F-SUP-3: PPMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Approximately 777,000 acres managed with considerations to wildlife habitat, air quality and threatened and endangered species.	PGMA: —.		PPMAs (and PACs, if so determined by individual LUP efforts) are the highest priority for conservation and protection during fire operations and fuels management decision making. The PPMAs will be viewed as more valuable than PGMA's when priorities are established. When suppression resources are widely available, maximum efforts will be placed on limiting fire growth in PGMA's polygons as well. These priority areas will be further refined following completion of the GRSG Landscape Wildfire and Invasive Species Habitat Assessments described in Appendix K . PMMA: Same as PPMA. PGMA: Same as PPMA.	Habitats: —. Montana Habitat: Same as Alternative A. Utah Habitat: —.	PGMA: —. PRMA: —.
A-SUP-4: —.	B-SUP-4: PPMA: —. PGMA: —.	C-SUP-4: PPMA: —.	D-SUP-4: PPMA: Within acceptable risk levels utilize a full range of fire management strategies and tactics, including the management of wildfires to achieve resource objectives, across the range of GRSG habitat consistent with land use plan direction. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-SUP-4: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-SUP-4: PPMA: —. PGMA: —. PRMA: —.
A-SUP-5: Prioritize fire suppression to protect firefighter and public safety. Each LUP supports the development and adherence to a more detailed fire management plan that outlines priorities and levels of suppression for particular vegetation classes or resource protection. Montana BLM: Emphasis on firefighter and public safety. Decisions based on relative values to be protected commensurate with fire management	B-SUP-5: PPMA: In PPMA, prioritize suppression, immediately after life and property, to conserve the habitat. PGMA: In PGMA, prioritize suppression where wildfires threaten PPMA.	C-SUP-5: PPMA: Same as Alternative B.	D-SUP-5: PPMA: Prioritize firefighter and public safety, followed by suppression of fires in PPMA, with consideration given to threatened and endangered species habitat. PMMA: Prioritize suppression of fires in PMMA and threatened and endangered species habitat after PPMA. PGMA: Prioritize suppression of fires in PGMA and threatened and endangered species habitat after PPMA	E-SUP-5: Idaho – CHZ: Prioritize protection of GRSG habitat after human safety and structure protection. Idaho – IHZ: Prioritize protection of GRSG habitat after human safety and structure protection and GRSG habitat in CHZ. Idaho – GHZ: Emphasize aggressive fire suppression techniques and efforts, recognizing that other local, regional, and national fire suppression priorities	F-SUP-5: PPMA: Same as Alternative B. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
costs.			and PMMA.	may take precedence. Montana Habitat: Same as Alternative A. Utah Habitat: Address fire by natural ignition as a serious threat.	
A-SUP-6: —.	B-SUP-6: PPMA: —. PGMA: —.	C-SUP-6: PPMA: —.	D-SUP-6: PPMA: Ensure firefighter personnel receive orientation regarding GRSG/sagebrush management issues as related to wildfire suppression. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-SUP-6: Idaho Common to All Habitats: —. Utah Habitat: —.	F-SUP-6: PPMA: —. PGMA: —. PRMA: —.
A-SUP-7: No similar action for sub-region. Montana BLM: Approximately 777,000 acres managed with considerations to wildlife habitat, air quality, and threatened and endangered species.	B-SUP-7: PPMA: —. PGMA: —.	C-SUP-7: PPMA: —.	D-SUP-7: PPMA: Suppress wildland fires in intact GRSG habitats and use managed wildfire where needed to improve GRSG habitat. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-SUP-7: Idaho – Common to All Habitats: —. Montana Habitat: Same as Alternative A. Utah Habitat: —.	F-SUP-7: PPMA: —. PGMA: —. PRMA: —.
A-SUP-8: —.	B-SUP-8: PPMA: —. PGMA: —.	C-SUP-8: PPMA: —.	D-SUP-8: PPMA: —. PMMA: —. PGMA: —.	E-SUP-8: Idaho – CHZ: Prioritize funding for fire suppression. Idaho – IHZ: —. Idaho – GHZ: —. Utah Habitat: —.	F-SUP-8: PPMA: —. PGMA: —. PRMA: —.
A-SUP-9: During suppression, protect GRSG habitats from fire through strategic wildfire suppression planning. Planning measures may include: <ul style="list-style-type: none">• Conducting burnout/backfiring operations in a manner that minimizes the loss of sagebrush when possible• The agency administrator or duty officer will prioritize the assignment of resources for suppression in the event of multiple wildfire starts in PPMA	B-SUP-9: PPMA: —. PGMA: —.	C-SUP-9: PPMA: —.	D-SUP-9: PPMA: Same as Alternative A. PMMA: Same as Alternative A. PGMA: Same as Alternative A.	E-SUP-9: Idaho – CHZ: Develop a consistent wildfire suppression plan that improves on the current wildfire suppression baseline within 1 year of the ROD (Table 2-13) through: <ul style="list-style-type: none">a. Ensuring close coordination with federal and state firefighters, local fire departments, and local expertise to create the best possible network of strategic fuel breaks and road access to minimize and reduce the size of a wildfire following ignitionb. Developing consistent fire response plans and mutual aid agreements	F-SUP-9: PPMA: —. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<ul style="list-style-type: none">Retain all unburned sagebrush islands unless firefighter safety and the success of the suppression operations are compromised				<p>c. Requesting and placing additional firefighting resources and establish new incident attack centers, with particular emphasis in the West Owyhee CA;</p> <p>d. Creating and maintaining effective fuel breaks in strategic locations that will modify fire behavior and increase fire suppression effectiveness according to the following criteria:</p> <ul style="list-style-type: none">Targeting establishment of fuel breaks along existing roads or other disturbancesIdentifying and targeting higher-risk roads for fuel break construction and maintenance based on fire history mapsImplementing a strategic approach to using these roads for rapid fire responseAnalyzing the benefits of the fuel break against the additional loss of sagebrush cover and risk on invasive weedsMaintaining fire breaks to meet objectives <p>e. Requesting the necessary federal appropriations to achieve this objective</p> <p>Idaho – IHZ: Develop a wildfire suppression plan that improves on the fire suppression baseline through:</p> <p>a. Ensuring close coordination with federal and state firefighters, local fire departments, and local expertise (e.g., livestock grazing permittees and road maintenance personnel) to create the best possible network of strategic fuel breaks and road access to minimize and reduce the size of a wildfire following ignition</p> <p>b. Developing consistent fire response plans and mutual aid agreements</p> <p>c. Requesting the necessary federal</p>	

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
				appropriations to achieve this objective. Idaho – GHZ: —. Utah Habitat: —.	
Emergency Stabilization and Rehabilitation (ESR-BLM) and Burned Area Emergency Rehabilitation (BAER-FS)					
A-ESR-1: —.	B-ESR-1: PPMA: —. PGMA: —.	C-ESR-1: PPMA: —.	D-ESR-1: PPMA: Incorporate measurable groundcover and vegetation objectives (e.g., density and cover) into ESR/BAER plans. Qualitative objectives, such as plant vigor, seed production, and growing season conditions, should also be considered. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-ESR-1: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-ESR-1: PPMA: —. PGMA: —. PRMA: —.
A-ESR-2: —.	B-ESR-2: PPMA: —. PGMA: —.	C-ESR-2: PPMA: —.	D-ESR-2: PPMA: Ensure that appropriate GRSG seasonal habitat objectives are considered in ESR (BLM) and BAER (Forest Service) plans that contain PPMA, PMMA, or PGMA. The primary short-term objective is to establish or recover shrubs, grasses, and forbs appropriate for the ecological site. In seedings, native plant materials is preferred but introduced species may also be required to compete with invasives, especially on harsher sites. The longer-term objective (i.e., 10 years-plus) is to achieve a robust perennial herbaceous understory with at least 10% sagebrush canopy cover that provides functional GRSG habitat. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-ESR-2: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-ESR-2: PPMA: —. PGMA: —. PRMA: —.
A-ESR-3: —.	B-ESR-3: PPMA: —. PGMA: —.	C-ESR-3: PPMA: —.	D-ESR-3: PPMA: In the short term, ensure an appropriate rest period from livestock grazing to allow natural recovery of existing seedings or the establishment of new seedings that are within PPMA, PMMA, or PGMA.	E-ESR-3: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-ESR-3: PPMA: —. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
			PMMA: Same as PPMA. PGMA: Same as PPMA.		
A-ESR-4: —.	B-ESR-4: PPMA: —. PGMA: —.	C-ESR-4: PPMA: —.	D-ESR-4: PPMA: Once seeded or naturally recovered areas within PPMA, PMMA, or PGMA can be reopened to livestock grazing, incorporate long-term management that will maintain the seeding investment, promote long-term plant community health, and promote the achievement of GRSG habitat objectives. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-ESR-4: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-ESR-4: PPMA: —. PGMA: —. PRMA: —.
A-ESR-5: —.	B-ESR-5: PPMA: —. PGMA: —.	C-ESR-5: PPMA: —.	D-ESR-5: PPMA: Consider adjusting livestock management on adjacent unburned areas to mitigate the effect of the burn on local GRSG populations. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-ESR-5: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-ESR-5: PPMA: —. PGMA: —. PRMA: —.
Livestock Grazing					
A-LG/RM-1: Continue to make GRSG habitat available for livestock grazing (see Table 2-2). Active AUMs for livestock grazing would remain the same, though the number of AUMs on a permit may be adjusted during site-specific evaluations conducted during term permit renewals, AMP development, or other appropriate implementation activity. Additionally, temporary adjustments can be made annually to livestock numbers, the number of AUMs, season of use, and other aspects of grazing within the terms and conditions of the permit based on the permittees livestock operation and/or an evaluation of a variety of forage and resource site-	B-LG/RM-1: PPMA: Same as Alternative A (see Table 2-2). PGMA: Same as PPMA.	C-LG/RM-1: PPMA: No grazing will be allowed in occupied GRSG habitat (see Table 2-2). Grazing will remain unchanged in areas outside of occupied GRSG habitat.	D-LG/RM-1: PPMA: Same as Alternative A (see Table 2-2). PMMA: Same as PPMA. PGMA: Same as PPMA.	E-LG/RM-1: Idaho – Common to All Habitats: Same as Alternative A (see Table 2-2). Montana Habitat: Same as Alternative A. Utah Habitat: Same as Alternative A (see Table 2-2).	F-LG/RM-1: PPMA: Grazing would be reduced by 25% (see Table 2-2). Reductions by allotment will occur by Field Office based on a review of the site-specific information (e.g., range condition, utilization levels, type and condition of GRSG habitat). Based on the Field Office review, the reductions in AUMs would occur in allotments that overlap occupied GRSG habitat, whether partial reductions in active use or closing specific allotments. The reductions would be implemented during renewal of term grazing permits. PGMA: Grazing would be reduced by 25% (see Table 2-2).

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
specific conditions. Montana BLM: Continue to manage under current guidance. Consider changes in grazing management on a case-by-case basis. 456,100 acres PPH available for livestock grazing and 212,200 acres PGH available for grazing					PRMA: Same as Alternative A.
A-LG/RM-2: —.	B-LG/RM-2: PPMA: Incorporate GRSG habitat objectives and management considerations into all BLM and Forest Service grazing allotments through AMPs or permit renewals and/or Forest Service Annual Operating Instructions. PGMA: —.	C-LG/RM-2: PPMA: —.	D-LG/RM-2: PPMA: Within grazing allotments containing GRSG habitat, incorporate grazing management measures designed to meet GRSG habitat objectives through AMPs, grazing permit renewal or permit modification processes. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-LG/RM-2: Idaho – CHZ: Prioritize permit renewal and land health assessment processes for allotments with declining GRSG populations in conjunction with scheduled term grazing permit renewals, or where the adaptive regulatory trigger has been tripped and livestock grazing has been identified as a potential causal factor. Idaho – IHZ: Prioritize permit renewal and land health assessment processes for allotments with declining GRSG populations. Idaho – GHZ: —. Utah Habitat: —.	F-LG/RM-2: PPMA: Same as Alternative B. PGMA: Same as Alternative B. PRMA: Same as Alternative B.
A-LG/RM-3: Consider adjustments to allotment boundaries that provide for single unit or landscape level grazing approaches to habitat improvement on a case-by-case basis.	B-LG/RM-3: PPMA: Work cooperatively on integrated ranch planning within GRSG habitat so operations with deeded/BLM and/or Forest Service allotments can be planned as single units. PGMA: —.	C-LG/RM-3: PPMA: —.	D-LG/RM-3: PPMA: Work cooperatively with other land managers to allow livestock operations that utilize mixed federal, private and/or state land to be managed at the landscape scale to benefit GRSG and their habitat. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-LG/RM-3: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-LG/RM-3: PPMA: Same as Alternative B. PGMA: —. PRMA: —.
A-LG/RM-4: Complete rangeland health assessments for each allotment at least once every ten years for consideration during the permit renewal process. Monitor vegetation trends (including	B-LG/RM-4: PPMA: Prioritize completion of land health assessments (Forest Service may use other analyses) and processing grazing permits within PPMA. Focus this process on allotments that have the best opportunities for conserving, enhancing	C-LG/RM-4: PPMA: —.	D-LG/RM-4: PPMA: PPMA is the highest priority for BLM land health assessments and processing of BLM grazing permits with consideration for threatened and endangered species. Where possible, conduct land health assessments at the watershed, or other	E-LG/RM-4: Idaho – Common to All Habitats: Complete the allotment assessment process in conjunction with scheduled term grazing permit renewals (i.e., every ten years), giving priority to areas that have the potential to provide the greatest benefit to GRSG.	F-LG/RM-4: PPMA: Same as Alternative B. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<p>composition, cover, and age class), noxious weeds, riparian Proper Functioning Condition (PFC), etc. as part of the grazing management program.</p> <p>BLM plans do not contain grazing management decisions specific to conserving GRSG habitat.</p> <p>Forest Service LUPs contain specific management actions for permitted livestock grazing that take in to consideration established habitat management objectives.</p>	<p>or restoring habitat for GRSG. Utilize BLM Ecological Site Descriptions (Forest Service may use other methods) to conduct land health assessments to determine if standards of range-land health are being met.</p> <p>PGMA: —.</p>		<p>meaningful landscape-scale.</p> <p>PMMA: Prioritize BLM land health assessments and processing of BLM grazing permits after PPMA with consideration for threatened and endangered species. Where possible, conduct land health assessments at the watershed, or other meaningful landscape-scale.</p> <p>PGMA: Prioritize BLM land health assessments and processing of BLM grazing permits after PMMA, with consideration for threatened and endangered species. Where possible, conduct land health assessments at the watershed, or other meaningful landscape-scale.</p>	<p>Idaho – CHZ: Prioritize and concentrate allocation of resources for assessment and permit renewal on allotments within CHZ that have declining GRSG populations, with secondary priority given to stable or increasing populations within CHZ.</p> <p>Idaho – IHZ: Prioritize allotments within IHZ containing breeding habitats that have decreasing lek counts after permits within CHZ. GRSG populations that are stable or trending upward will be a lower priority for permit renewal and the assessment process.</p> <p>Idaho – GHZ: —.</p> <p>Utah Habitat: —.</p>	
<p>A-LG/RM-5: —.</p>	<p>B-LG/RM-5: PPMA: Conduct land health assessments that include (at a minimum) indicators and measurements of structure/condition/composition of vegetation specific to achieving GRSG habitat objectives (Doherty et al. 2011a). If local/state seasonal habitat objectives are not available, use GRSG habitat recommendations from Connelly et al. 2000 and Hagen et al. 2007.</p> <p>PGMA: —.</p>	<p>C-LG/RM-5: PPMA: —.</p>	<p>D-LG/RM-5: PPMA: During the land health assessment process determine whether vegetation structure, condition and composition are meeting GRSG habitat objectives in sagebrush cover types through implementation of the habitat assessment framework, (Stiver et al. 2010 as amended/replaced) or other BLM or Forest Service approved methodology, in accordance with current policy and guidance.</p> <p>PMMA: Same as PPMA.</p> <p>PGMA: —.</p>	<p>E-LG/RM-5: Idaho – Common to All Habitats: Utilize a variety of information sources, when available, in the allotment assessment process, including: published characteristics of GRSG habitat; Ecological Site Descriptions; existing vegetation; habitat inventories/assessments (Stiver et al. 2010); and state and transition models that describe vegetation and other physical attributes for GRSG. Include discussion of whether the allotment (or any pasture/significant area therein) has the existing vegetation and/or existing ecological condition (seral state) to provide GRSG habitat (Category 1); or whether the allotment (or any pasture/significant area therein) has the ecological potential to provide GRSG habitat (Category 2). When either of these categories applies, incorporate GRSG habitat management objectives as the desired conditions for</p>	<p>F-LG/RM-5: PPMA: Same as Alternative B.</p> <p>PGMA: —.</p> <p>PRMA: —.</p>

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
				the applicable allotment and pasture. Utah Habitat: —.	
A-LG/RM-6: Consider range improvements and/or adjust permit terms and conditions on a case-by-case basis as necessary to meet land health standards or habitat objectives identified in individual LUPs. Changes may include, but are not limited to: 1) Rotation systems (e.g., rest rotation, deferred rotation) 2) Season or timing of use 3) Distribution of livestock use 5) Type of livestock 6) Class of livestock 7) Duration of grazing use and rest periods	B-LG/RM-6: PPMA: Implement management actions (grazing decisions, Annual Operating Instructions [Forest Service only], AMP/Conservation Plan development, or other agreements) to modify grazing management to meet seasonal GRSG habitat requirements (Connelly et al. 2011). Consider singly, or in combination, changes in: 1) Season or timing of use; 2) Numbers of livestock (includes temporary non-use or livestock removal); 3) Distribution of livestock use; 4) Intensity of use; and 5) Type of livestock (e.g., cattle, sheep, horses, llamas, alpacas and goats) (Briske et al. 2011). PGMA: —.	C-LG/RM-6: PPMA: —.	D-LG/RM-6: PPMA: When livestock management practices determined to not be compatible with meeting or making progress towards habitat objectives, implement changes in grazing management through grazing authorization modifications, or AMP implementation. Potential considerations include, but are not limited to, changes in: 1) Season or timing of use; 2) Numbers of livestock; 3) Distribution of livestock use; 4) Duration and/or level of use; 5) Kind of livestock (e.g., cattle, sheep, horses, or goats) (Briske et al. 2011); 6) Voluntary measures such as temporary non-use; and 7) Grazing schedules (including rest or deferment). PMMA: Same as PPMA. PGMA: Same as PPMA.	E-LG/RM-6: Idaho – CHZ: Adjust grazing permits during the renewal process to include measures (including but not limited to measures described in Appendix D) to achieve desired habitat conditions, if through the assessment process, livestock grazing is found to be limiting the achievement of the habitat characteristics (Appendix D). Measures must be tailored to address the specific management issues. Where population and habitat triggers are being maintained within a CA, this provides that the current grazing system is adequate to maintain viable GRSG populations and therefore absent compelling information, no further changes to BLM grazing systems would be required pursuant to Standard 8 of the Idaho Rangeland Health Standards with respect to GRSG. Idaho – IHZ: Same as Idaho - CHZ. Idaho – GHZ: —. Utah Habitat: —.	F-LG/RM-6: PPMA: Same as Alternative B. PGMA: —. PRMA: —.
A-LG/RM-7: —.	B-LG/RM-7: PPMA: Maintain retirement of grazing privileges as an option in PPMA when the current permittee is willing to retire grazing on all or part of an allotment. Analyze the adverse impacts of no livestock use on wildfire and invasive species threats (Crawford et al. 2004) in evaluating retirement proposals. PGMA: —.	C-LG/RM-7: PPMA: —.	D-LG/RM-7: PPMA: Consider retiring an allotment if grazing privileges are relinquished or if an allotment becomes vacant. When grazing privileges are relinquished the associated allotment(s) may be retired from grazing, or converted to a forage reserve/buffer to use during fire rehabilitation or restoration efforts elsewhere (Adopted from Idaho State Plan page 4.64, Appendix D), when such actions are determined to result in a net benefit to GRSG habitat and other priority resources.	E-LG/RM-7: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-LG/RM-7: PPMA: Same as Alternative B. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
			PMMA: Same as PPMA. PGMA: Same as PPMA.		
A-LG/RM-8: —.	B-LG/RM-8: PPMA: —. PGMA: —.	C-LG/RM-8: PPMA: —.	D-LG/RM-8: PPMA: —. PMMA: —. PGMA: —.	E-LG/RM-8: Idaho – CHZ: Establish strategically located forage reserves focusing on areas unsuitable for GRSG habitat restoration or lower priority habitat restoration areas when feasible. Idaho – IHZ: Same as Idaho – CHZ. Idaho – GHZ: —. Utah Habitat: —.	F-LG/RM-8: PPMA: —. PGMA: —. PRMA: —.
A-LG/RM-9: —.	B-LG/RM-9: PPMA: —. PGMA: —.	C-LG/RM-9: PPMA: —.	D-LG/RM-9: PPMA: —. PMMA: —. PGMA: —.	E-LG/RM-9: Idaho – CHZ: Implement grazing management systems that ensure adequate nesting and early brood rearing habitat within the breeding landscape. Manage allotments only for the primary seasonal habitat that it has the potential to support. BLM will conduct fine and site scale habitat assessments based on these habitat characteristics. Idaho – IHZ: Same as Idaho - CHZ. Idaho – GHZ: —. Utah Habitat: —.	F-LG/RM-9: PPMA: —. PGMA: —. PRMA: —.
A-LG/RM-10: Consider changes in grazing management on a case-by-case basis. Changes may include, but are not limited to: 1) Rotation systems (e.g., rest rotation and deferred rotation) 2) Season or timing of use 3) Distribution of livestock use 5) Type of livestock 6) Class of livestock 7) Duration of grazing use and rest	B-LG/RM-10: PPMA: —. PGMA: —.	C-LG/RM-10: PPMA: —.	D-LG/RM-10: PPMA: —. PMMA: —. PGMA: —.	E-LG/RM-10: Idaho – CHZ: Modify grazing management through appropriate herding, salting, and water-source management (e.g., turning troughs/pipelines on/off, extending pipelines/moving troughs) when use-pattern mapping or monitoring demonstrates an opportunity to adjust livestock distribution to benefit occupied GRSG breeding habitat. Idaho – IHZ: Same as Idaho - CHZ.	F-LG/RM-10: PPMA: —. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
periods.				Idaho – GHZ: —. Utah Habitat: —.	
A-LG/RM-11: —.	B-LG/RM-11: PPMA: —. PGMA: —.	C-LG/RM-11: PPMA: —.	D-LG/RM-11: PPMA: Coordinate with the permittee to schedule grazing use to avoid the GRSG breeding and nesting period when practical. If a lek is located at a water trough, turn off the trough during the breeding and nesting period to minimize potential impacts on GRSG when possible. PMMA: —. PGMA: —.	E-LG/RM-11: Idaho – CHZ: Graze exotic perennial grass seedings and/or annual grasslands to avoid grazing during breeding season in occupied GRSG habitat if available and feasible. Idaho – IHZ: Same as Idaho - CHZ. Idaho – GHZ: —. Utah Habitat: —.	F-LG/RM-11: PPMA: —. PGMA: —. PRMA: —.
A-LG/RM-12: Consider changes in grazing management on a case-by-case basis. Changes may include, but are not limited to: 1) Rotation systems (e.g., rest rotation and deferred rotation) 2) Season or timing of use 3) Distribution of livestock use 5) Type of livestock 6) Class of livestock 7) Duration of grazing use and rest periods	B-LG/RM-12: PPMA: —. PGMA: —.	C-LG/RM-12: PPMA: —.	D-LG/RM-12: PPMA: —. PMMA: —. PGMA: —.	E-LG/RM-12: Idaho – CHZ: Modify authorized seasons of use within grazing permits to provide greater flexibility in managing livestock for the benefit of GRSG. Idaho – IHZ: Same as Idaho - CHZ. Idaho – GHZ: —. Utah Habitat: —.	F-LG/RM-12: PPMA: —. PGMA: —. PRMA: —.
A-LG/RM-13: —.	B-LG/RM-13: PPMA: —. PGMA: —.	C-LG/RM-13: PPMA: —.	D-LG/RM-13: PPMA: —. PMMA: —. PGMA: —.	E-LG/RM-13: Idaho – CHZ: Maintain residual herbaceous vegetation at the end of the growing/grazing season to contribute to nesting and brood-rearing habitat during the coming nesting season consistent with conditions described in Appendix D). Idaho – IHZ: Same as Idaho - CHZ. Idaho – GHZ: —. Utah Habitat: —.	F-LG/RM-13: PPMA: —. PGMA: —. PRMA: —.
A-LG/RM-14: Consider changes in grazing management on a case-by-case	B-LG/RM-14: PPMA: —.	C-LG/RM-14: PPMA: —.	D-LG/RM-14: PPMA: —.	E-LG/RM-14: Idaho – CHZ: Modify grazing management to meet seasonal	F-LG/RM-14: PPMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
basis. Changes may include, but are not limited to: 1) Rotation systems (e.g., rest rotation and deferred rotation) 2) Season or timing of use 3) Distribution of livestock use 5) Type of livestock 6) Class of livestock 7) Duration of grazing use and rest periods	PGMA: —.		PMMA: —. PGMA: —.	GRSG habitat requirements (Appendix D). Provide flexibility in grazing management through scheduling the intensity, timing, duration and frequency of grazing use over time that best promotes management objectives. The Implementation Task Force would provide recommendations throughout the process and would be given the ability to review proposed management changes and the implementation of conservation measures to ensure that the measures are being appropriately applied. Idaho – IHZ: Same as Idaho – CHZ. Idaho – GHZ: —. Utah Habitat: —.	PGMA: —. PRMA: —.
A-LG/RM-15: —.	B-LG/RM-15: PPMA: Develop specific objectives to conserve, enhance or restore PPMA based on BLM Ecological Site Descriptions (Forest Service may use other methods) and assessments (including within wetlands and riparian areas). If an effective grazing system that meets GRSG habitat requirements is not already in place, analyze at least one alternative that conserves, restores or enhances GRSG habitat in the NEPA document prepared for the permit renewal (Doherty et al. 2011b, Williams et al. 2011). PGMA: —.	C-LG/RM-15: PPMA: —.	D-LG/RM-15: PPMA: Use monitoring information and rangeland health assessments to develop specific management objectives and grazing management plans designed to maintain, enhance or restore GRSG habitat. Prioritize implementation of grazing systems or permit modifications that make progress towards meeting habitat objectives, in areas that are not meeting these objectives. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-LG/RM-15: Idaho – CHZ: Conduct rangeland health assessments utilizing published characteristics of GRSG habitat and the Ecological Site Descriptions, and Appendix D , and where available and applicable, rangeland health determinations made in accordance with 43 C.F.R. 4180.2(c). Idaho – IHZ: Same as Idaho – CHZ. Idaho – GHZ: —. Utah Habitat: Consider GRSG seasonal habitat requirements when managing sagebrush rangelands. Considerations to be taken into account include the following: Leks Be cautious of man-made structures on lek sites. Reduce shrub encroachment and maintain the “open” area that characterizes a typical lek site. Identify the location of leks through discussions	F-LG/RM-15: PPMA: —. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
				<p>with DWR biologists.</p> <p>Nesting/Early Brood-Rearing Maintain and enhance the existing sagebrush/plant communities. Manage these areas to increase herbaceous cover by sustaining a mosaic of sagebrush and open areas. Avoid repeated, annual heavy use of these areas by implementing periodic rest and/or deferment periods during the critical growing season.</p> <p>Late Brood-Rearing Avoid continuous (season-long) grazing of wet meadows and riparian habitats, especially under drought conditions when temperatures are high.</p> <p>Winter Carefully manage levels of browsing or activities in sagebrush areas that constitute GRSG habitat that would reduce GRSG access to these areas for food and cover. The potential impact of livestock grazing on winter habitat can be positive or negative depending on scale and location of use.</p>	
A-LG/RM-16: —.	B-LG/RM-16: PPMA: In PPMA, manage for vegetation composition and structure consistent with ecological site potential and within the reference state to achieve GRSG seasonal habitat objectives. PGMA: —.	C-LG/RM-16: PPMA: —.	D-LG/RM-16: PPMA: Manage for vegetation composition (including riparian and lentic areas) and structure consistent with appropriate GRSG seasonal habitat objectives relative to site potential. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-LG/RM-16: Idaho – CHZ: Maintain existing grazing management absent substantial and compelling information, if, based on the assessment, the current grazing system achieves the habitat characteristics (Appendix D). Idaho – IHZ: Same as Idaho – CHZ. Idaho – GHZ: —. Utah Habitat: Address incompatible grazing strategies through established rangeland management practices consistent with the maintenance or enhancement of habitat. Carefully	F-LG/RM-16: PPMA: Manage for vegetation composition and structure consistent with ecological site potential and within the reference state to achieve GRSG habitat objectives. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
				<p>manage the “time,” “timing,” and “intensity” of grazing in sagebrush/GRSG habitats to provide for the seasonal needs of GRSG. Specific prescriptions can be applied through more intensive management to address special needs or weak links in the biological year of GRSG production. Where time-controlled grazing is not an option, moderate use of occupied GRSG habitats will usually leave mosaic or patchy areas where some plants are ungrazed. Managing for moderate utilization levels (40%) after the period of rapid vegetation growth may provide enough residual cover for GRSG nesting and early brood-rearing the subsequent spring. Evaluation of GRSG nesting and escape cover must be determined on a site-specific basis. Livestock operations with a small amount of nesting habitat should consider special management activities to protect nesting and early brood-rearing areas. Lighter use of areas may be warranted. In areas with large tracts of contiguous habitat, livestock producers should manage the vegetation on a rotational grazing basis, which may leave 10 - 20 % of the area ungrazed periodically in combination with deferring or altering timing of grazing in other areas. In areas where GRSG nesting is common, managing for moderate use of plant growth across the landscape would be appropriate. Well-managed ranches with comprehensive grazing strategies that include short-term or duration grazing, higher levels of use may be acceptable, provided these higher levels of use include rested vegetation in nearby areas.</p>	
A-LG/RM-17: —.	B-LG/RM-17: PPMA: —.	C-LG/RM-17: PPMA: —.	D-LG/RM-17: PPMA: Outside of	E-LG/RM-17: Idaho – Common to	F-LG/RM-17: PPMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
	PGMA: —.		occupied or potential bighorn sheep habitat, allow temporary or permanent conversion of cattle AUMs to sheep and/or goat grazing to allow for fuels management opportunities using domestic livestock. Sheep and goat grazing areas must be reviewed and modified as bighorn sheep habitat maps are updated or refined. PMMA: Same as PPMA. PGMA: Same as PPMA.	All Habitats: —. Utah Habitat: —.	PGMA: —. PRMA: —.
A-LG/RM-18: —.	B-LG/RM-18: PPMA: —. PGMA: —.	C-LG/RM-18: PPMA: —.	D-LG/RM-18: PPMA: Incorporate Terms and Conditions in crossing permits to limit disturbance of leks when trailing livestock across BLM- and Forest Service-administered lands in the spring. Appropriate Terms and Conditions include, but are not limited to: required herding practices, permitted routes, timing of livestock movements during lekking season, watering, overnighing, and sheep bedding locations. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-LG/RM-18: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-LG/RM-18: PPMA: No action. PGMA: —. PRMA: —.
A-LG/RM-19: —.	B-LG/RM-19: PPMA: —. PGMA: —.	C-LG/RM-19: PPMA: —.	D-LG/RM-19: PPMA: —. PMMA: —. PGMA: —.	E-LG/RM-19: Idaho – Common to All Habitats: Consider additional options for scheduled grazing based on the three habitat zones in light of unintended consequences of altering grazing use, such as a possible increased risk of wildfire, before adjusting management. Idaho – CHZ: Altering grazing schemes in allotments within CHZ, where needed and appropriate, through enhanced grazing opportunities utilizing introduced seedings or areas with lower value to GRSG (e.g., GHZ).	F-LG/RM-19: PPMA: —. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
				Idaho – IHZ: Enhance grazing opportunities through utilization of areas with introduced seedings or areas with lower value to GRSG. Idaho – GHZ: Same as Idaho – IHZ. Utah Habitat: —.	
A-LG/RM-20: —.	B-LG/RM-20: PPMA: —. PGMA: —.	C-LG/RM-20: PPMA: —.	D-LG/RM-20: PPMA: —. PMMA: —. PGMA: —.	E-LG/RM-20: Idaho – Common to All Habitats: Include measures tailored to address specific management issues (Appendix D), when livestock grazing is limiting achievement of the habitat characteristics (Appendix D), within renewed permits. Utah Habitat: —.	F-LG/RM-20: PPMA: —. PGMA: —. PRMA: —.
A-LG/RM-21: Consider changes in grazing management on a case-by-case basis. Changes may include, but are not limited to: 1) Rotation systems (e.g., rest rotation and deferred rotation) 2) Season or timing of use 3) Distribution of livestock use 5) Type of livestock 6) Class of livestock 7) Duration of grazing use and rest periods.	B-LG/RM-21: PPMA: —. PGMA: —.	C-LG/RM-21: PPMA: —.	D-LG/RM-21: PPMA: —. PMMA: —. PGMA: —.	E-LG/RM-21: Idaho – Common to All Habitats: Maintain flexibility in grazing management and the opportunity to schedule and adjust intensity, timing, duration, and frequency of grazing use over time in a manner that maintains rangeland health and habitat quality. Utah Habitat: —.	F-LG/RM-21: PPMA: —. PGMA: —. PRMA: —.
A-LG/RM-22: —.	B-LG/RM-22: PPMA: —. PGMA: —.	C-LG/RM-22: PPMA: —.	D-LG/RM-22: PPMA: Utilize existing and appropriate rangeland health assessment and GRSG habitat assessment (currently the Habitat Assessment Framework) processes to quantify GRSG habitat quality. Prioritize assessment completion in PPMA. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-LG/RM-22: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-LG/RM-22: PPMA: —. PGMA: —. PRMA: —.
A-LG/RM-23: —.	B-LG/RM-23: PPMA: —.	C-LG/RM-23: PPMA: —.	D-LG/RM-23: PPMA: Monitor vegetation utilizing techniques that	E-LG/RM-23: Idaho – Common to All Habitats: Conduct fine and site	F-LG/RM-23: PPMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
	PGMA: —.		quantify GRSG habitat attributes to determine if vegetation management objectives are being achieved. This monitoring would occur consistent with appropriate BLM and Forest Service direction which current utilizes the Habitat Assessment Framework and BLM Technical Reference 1734-4. PMMA: Same as PPMA. PGMA: Same as PPMA.	scale-habitat assessments to help inform grazing management based on habitat characteristics described in Appendix D . Utah Habitat: —.	PGMA: —. PRMA: —.
A-LG/RM-24: Implement noxious weed and invasive species control using integrated weed management actions per national guidance and local weed management plans in cooperation with State and Federal agencies, affected counties, and adjoining private lands owners.	B-LG/RM-24: PPMA: —. PGMA: —.	C-LG/RM-24: PPMA: —.	D-LG/RM-24: PPMA: —. PMMA: —. PGMA: —.	E-LG/RM-24: Idaho – CHZ: —. Idaho – IHZ: Monitor weed eradication program to evaluate the success of weed control efforts in conjunction with the Cooperative Weed Management Areas. Idaho – GHZ: Same as Idaho – IHZ. Utah Habitat: —.	F-LG/RM-24: PPMA: No action. PGMA: —. PRMA: —.
A-LG/RM-25: —.	B-LG/RM-25: PPMA: —. PGMA: —.	C-LG/RM-25: PPMA: —.	D-LG/RM-25: PPMA: —. PMMA: —. PGMA: —.	E-LG/RM-25: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-LG/RM-25: PPMA: Encourage partners to monitor effects of retiring grazing permits in GRSG habitat. PGMA: —. PRMA: —.
A-LG/RM-26: —.	B-LG/RM-26: PPMA: —. PGMA: —.	C-LG/RM-26: PPMA: —.	D-LG/RM-26: PPMA: —. PMMA: —. PGMA: —.	E-LG/RM-26: Idaho – Common to All Habitats: Conduct a determination of factors causing any failure to achieve the habitat characteristics (Appendix D) at a resolution sufficient to document the habitat condition, including consideration of local spatial and inter-annual variability. Determination must utilize data from multiple years or multiple locations within an allotment. Utah Habitat: —.	F-LG/RM-26: PPMA: —. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Drought Management					
A-LG/RM-27: —. Livestock grazing program/policy direction allows the BLM and Forest Service to make changes to livestock grazing in response to drought conditions. Changes may include adjusting livestock numbers based on available forage or shortening the season of use.	B-LG/RM-27: PPMA: During drought periods, prioritize evaluating effects of the drought in PPMA relative to their needs for food and cover. Since there is a lag in vegetation recovery following drought (Thurow and Taylor 1999; Cagney et al. 2010), ensure that post-drought management allows for vegetation recovery that meets GRSG needs in PPMA. PGMA: —.	C-LG/RM-27: PPMA: —.	D-LG/RM-27: PPMA: Adjust grazing management (i.e., delay turnout, adjust pasture rotations, adjust the amount and/or duration of grazing) as appropriate during drought to provide for adequate food and cover for GRSG during drought periods. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-LG/RM-27: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-LG/RM-27: PPMA: During drought periods, prioritize evaluating effects of the drought in PPMA relative to their biological needs for food and cover, as well as drought effects on ungrazed reference areas. Since there is a lag in vegetation recovery following drought (Thurow and Taylor 1999; Cagney et al. 2010), ensure that post-drought management allows for vegetation recovery that meets GRSG needs in PPMA based on GRSG habitat objectives. PGMA: —. PRMA: —.
A-LG/RM-28: —.	B-LG/RM-28: PPMA: —. PGMA: —.	C-LG/RM-28: PPMA: —.	D-LG/RM-28: PPMA: —. PMMA: —. PGMA: —.	E-LG/RM-28: Idaho – CHZ: Prioritize evaluation of CHZ during drought periods relative to GRSG needs for food and cover. Ensure that post-drought management allows for vegetation recovery that meets GRSG needs in priority GRSG habitat areas. Idaho – IHZ: Same as Idaho – CHZ. Idaho – GHZ: Utah Habitat: —.	F-LG/RM-28: PPMA: —. PGMA: —. PRMA: —.
Riparian					
A-LG/RM-29: Manage, maintain, protect, and restore riparian and wetland areas to PFC.	B-LG/RM-29: PPMA: Manage riparian areas and wet meadows for proper functioning condition or other similar methodology (Forest Service only) within PPMA. PGMA: —.	C-LG/RM-29: PPMA: —.	D-LG/RM-29: PPMA: —. PMMA: —. PGMA: —.	E-LG/RM-29: Idaho – CHZ: Implement grazing management adjustments, where management changes are determined necessary (Appendix D), that are narrowly tailored to address the specific habitat objective applied at the allotment and/or activity plan level, including but not limited to the actions outlined in (Appendix D). Idaho – IHZ: Same as Idaho – CHZ.	F-LG/RM-29: PPMA: Same as Alternative B. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
				Idaho – GHZ: —. Utah Habitat: Design water developments to enhance mesic habitat for use by GRSG and maintain adequate vegetation in wet meadows. Within PPMA, GRSG stipulations should take precedence over stipulations for other species if conflicts occur, if otherwise allowable by law.	
A-LG/RM-30: Manage, maintain, protect, and restore riparian and wetland areas to PFC.	B-LG/RM-30: PPMA: Within GRSG habitats, manage wet meadows to maintain a component of perennial forbs with diverse species richness relative to site potential (e.g., reference state) to facilitate brood rearing. Also conserve or enhance these wet meadow complexes to maintain or increase amount of edge and cover within that edge to minimize elevated mortality during the late brood rearing period (Hagen et al. 2007; Kolada et al. 2009; Atamian et al. 2010). PGMA: Same as PPMA.	C-LG/RM-30: PPMA: —.	D-LG/RM-30: PPMA: —. PMMA: —. PGMA: —.	E-LG/RM-30: Idaho – Common to All Habitats: —. Utah Habitat: Design water developments to enhance mesic habitat for use by GRSG and maintain adequate vegetation in wet meadows. Within PPMA, GRSG stipulations should take precedence over stipulations for other species if conflicts occur, if otherwise allowable by law.	F-LG/RM-30: PPMA: Same as Alternative B. PGMA: —. PRMA: —.
A-LG/RM-31: —.	B-LG/RM-31: PPMA: Where riparian areas and wet meadows meet proper functioning condition or meet standards using other similar methodology (Forest Service only), strive to attain reference state vegetation relative to the ecological site description. PGMA: Same as PPMA.	C-LG/RM-31: PPMA: —.	D-LG/RM-31: PPMA: —. PMMA: —. PGMA: —.	E-LG/RM-31: Idaho – Common to All Habitats: —. Utah Habitat: Same as E-LG/RM-30.	F-LG/RM-31: PPMA: Same as Alternative B. PGMA: —. PRMA: —.
A-LG/RM-32: Manage rangeland resources to maintain healthy, sustainable, rangeland ecosystems and to restore degraded rangelands in accordance with Idaho’s Standards for Rangeland Health or standards or guidelines established in individual Forest Service LRMPs. Rangeland health standards require that riparian	B-LG/RM-32: PPMA: Reduce hot season grazing on riparian and meadow complexes to promote recovery or maintenance of appropriate vegetation and water quality. Utilize fencing/herding techniques or seasonal use or livestock distribution changes to reduce pressure on riparian or wet meadow vegetation used by GRSG in	C-LG/RM-32: PPMA: —.	D-LG/RM-32: PPMA: —. PMMA: —. PGMA: —.	E-LG/RM-32: Idaho – Common to All Habitats: —. Utah Habitat: Continue livestock grazing strategies that have proven effective in maintaining and enhancing GRSG habitat, unless compelling and credible cause-and-effect evidence indicates a disturbance exists. Address	F-LG/RM-32: PPMA: —. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
areas be managed for PFC.	the hot season (summer) (Aldridge and Brigham 2002; Crawford et al. 2004; Hagen et al. 2007). PGMA: —.			incompatible grazing strategies through established rangeland management practices consistent with the maintenance or enhancement of habitat. Design water developments to enhance mesic habitat for use by GRSG and maintain adequate vegetation in wet meadows. Within PPMA, GRSG stipulations should take precedence over stipulations for other species if conflicts occur, if otherwise allowable by law.	
A-LG/RM-33: Manage, maintain, protect, and restore riparian and wetland areas to PFC.	B-LG/RM-33: PPMA: —. PGMA: —.	C-LG/RM-33: PPMA: —.	D-LG/RM-33: PPMA: —. PMMA: —. PGMA: —.	E-LG/RM-33: Idaho – CHZ: Manage grazing of riparian areas, meadows, springs, and seeps in a manner that promotes vegetative structure and composition appropriate to the site. Idaho – IHZ: Same as Idaho – CHZ. Idaho – GHZ: —. Utah Habitat: —.	F-LG/RM-33: PPMA: —. PGMA: —. PRMA: —.
Range Improvements					
A-LG/RM-34: Consider structural range improvements on a case-by-case basis to provide for livestock grazing while maintaining rangeland health.	B-LG/RM-34: PPMA: Design any new structural range improvements and location of supplements (salt or protein blocks) to conserve, enhance, or restore GRSG habitat through an improved grazing management system relative to GRSG objectives. Structural range improvements, in this context, include but are not limited to: cattle guards, fences, exclosures, corrals or other livestock handling structures; pipelines, troughs, storage tanks (including moveable tanks used in livestock water hauling), windmills, ponds/reservoirs, solar panels and spring developments. Potential for invasive species establishment or increase following construction must be considered in the project planning process and monitored	C-LG/RM-34: PPMA: —.	D-LG/RM-34: PPMA: Design any new structural range improvements to conserve, enhance, or restore GRSG habitat. Structural range improvements, in this context, include but are not limited to: cattle guards, fences, exclosures, corrals or other livestock handling structures; pipelines, troughs, storage tanks (including moveable tanks used in livestock water hauling), windmills, ponds/reservoirs, solar panels and spring developments. Potential for an increase in invasive species establishment or increase following construction must be considered in the project planning process and monitored and treated post-construction.	E-LG/RM-34: Idaho – Common to All Habitats: —. Utah Habitat: Locate livestock fences away from leks and employ the NRCS fence standards (NRCS 2012).	F-LG/RM-34: PPMA: Avoid all new structural range developments in PPMA unless independent peer-reviewed studies show that the range improvement structure benefits GRSG. Design any new structural range improvements and location of supplements (salt or protein blocks) to conserve, enhance, or restore GRSG habitat through an improved grazing management system relative to GRSG objectives. Structural range improvements developments, in this context, include but are not limited to cattle guards, fences, exclosures, corrals or other livestock handling structures; pipelines, troughs, storage tanks (including moveable tanks used in livestock water hauling), windmills,

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
	and treated post-construction. PGMA: —.		PMMA: Same as PPMA. PGMA: Same as PPMA.		ponds/reservoirs, solar panels and spring developments. Potential for invasive species establishment or increase following construction must be considered in the project planning process and monitored and treated post-construction. Consider the comparative cost of changing grazing management instead of constructing additional range developments. PGMA: —. PRMA: —.
A-LG/RM-35: Consider modifications to existing structural range improvements on a case-by-case basis taking into consideration impacts on other resources.	B-LG/RM-35: PPMA: Evaluate existing structural range improvements and location of supplements (salt or protein blocks) to make sure they conserve, enhance or restore GRSG habitat. PGMA: —.	C-LG/RM-35: PPMA: —.	D-LG/RM-35: PPMA: During project inspections, evaluate the design and location of existing structural range improvements with respect to their effect on GRSG habitat, including, but not limited to: <ul style="list-style-type: none">• Potential for GRSG collisions with infrastructure.• Avian predation due to creation of roosting, perching or nesting sites.• Introduction of weeds, West Nile Virus and effects on vegetation structure or composition.• Assess existing livestock management fences within PPMA for risk of GRSG collisions based on proximity to leks, lek size, and topography (Christiansen 2009; Stevens 2011) or existing collision risk models (Stevens et al. 2012).• Prioritize fence removal, modification or marking in areas of high collision risk to reduce the incidence of GRSG mortality due to fence strikes (Stevens et al. 2012).• Avoid building new permanent fences within 2 km of occupied leks or high density fence areas (Stevens 2011). If this is not	E-LG/RM-35: Idaho – CHZ: Place salt or mineral supplements to improve management of livestock in existing disturbed sites (areas with reduced sagebrush cover—e.g., seedings or cheatgrass sites) to reduce impacts on GRSG breeding habitat. Idaho – IHZ: Same as Idaho – CHZ. Idaho – GHZ: —. Utah Habitat: —.	F-LG/RM-35: PPMA: Same as Alternative B. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
			<p>feasible, ensure that high risk segments are marked with collision diverter devices or as latest science indicates.</p> <ul style="list-style-type: none">Utilize temporary fencing (e.g., ESR, drop down fencing) where applicable and appropriate to meet management objectives. <p>Evaluate the locations where salt/supplements are placed. In coordination with the permittee, have salt/supplements moved to areas which would conserve or improve habitat for GRSG.</p> <p>PMMA: Same as PPMA.</p> <p>PGMA: During project inspections, evaluate the design and location of existing structural range improvements and location of supplements (salt or protein blocks) with respect to their effect on GRSG habitat, including, but not limited to:</p> <ul style="list-style-type: none">Potential for GRSG collisions.Avian predation due to creation of roosting, perching or nesting sites.Introduction of weeds, West Nile Virus and effects on vegetation structure or composition.Avoid building new fences within 2 km of occupied leks or winter concentration areas. If this is not feasible, ensure that high risk segments are marked with collision diverter devices or as latest science indicates.		
A-LG/RM-36: —.	B-LG/RM-36: PPMA: To reduce outright GRSG strikes and mortality, remove, modify or mark fences in high risk areas within PPMA based on proximity to lek, lek size, and topography (Christiansen 2009, Stevens	C-LG/RM-36: PPMA: —.	D-LG/RM-36: PPMA: Design and locate fences to minimize the potential for GRSG strikes. PMMA: Same as PPMA.	E-LG/RM-36: Idaho – CHZ: Mark fences on flat to gently rolling terrain in areas of moderate to high fence densities (i.e., more than one kilometer of fence per square kilometer) located within two kilometers of occupied leks	F-LG/RM-36: PPMA: To reduce outright GRSG strikes and mortality, remove, modify or mark fences in high risk areas of moderate or high risk of GRSG strikes within PPMA based on proximity to lek, lek size, and

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
	2011). PGMA: —.		PGMA: Same as PPMA.	with permanent flagging or other suitable device to reduce GRSG collisions. Idaho – IHZ: Same as CHZ. Idaho – GHZ: —. Utah Habitat: Fences should not be located on or adjacent to leks where bird collisions would be expected to occur. Employ NRCS fence collision risk tool (NRCS 2012).	topography (Christiansen 2009; Stevens 2011). PGMA: —. PRMA: —.
A-LG/RM-37: —.	B-LG/RM-37: PPMA: —. PGMA: —.	C-LG/RM-37: PPMA: —.	D-LG/RM-37: PPMA: —. PMMA: —. PGMA: —.	E-LG/RM-37: Idaho – CHZ: Avoid constructing new fences within 2 km of occupied leks. Place new, taller structures, such as corrals, loading facilities, water-storage tanks, windmills, etc., at least 2 km from occupied leks to reduce opportunities for perching raptors based on careful consideration of local conditions near other important seasonal habitats (winter-use areas, movement corridors etc.) to reduce potential impacts. Idaho – IHZ: Same as CHZ. Idaho – GHZ: —. Utah Habitat: —.	F-LG/RM-37: PPMA: —. PGMA: —. PRMA: —.
A-LG/RM-38: —.	B-LG/RM-38: PPMA: —. PGMA: —.	C-LG/RM-38: PPMA: —.	D-LG/RM-38: PPMA: —. PMMA: —. PGMA: —.	E-LG/RM-38: Idaho – CHZ: Reduce the impacts of fences and livestock management facilities on GRSG, to the extent practicable. Idaho – IHZ: Same as CHZ. Idaho – GHZ: —. Utah Habitat: —.	F-LG/RM-38: PPMA: —. PGMA: —. PRMA: —.
A-LG/RM-39: —.	B-LG/RM-39: PPMA: —. PGMA: —.	C-LG/RM-39: PPMA: —.	D-LG/RM-39: PPMA: —. PMMA: —.	E-LG/RM-39: Idaho – CHZ: Remove unnecessary fences. Idaho – IHZ: Same as CHZ.	F-LG/RM-39: PPMA: —. PGMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
			PGMA: —.	Idaho – GHZ: Same as CHZ. Utah Habitat: —.	PRMA: —.
A-LG/RM-40: —.	B-LG/RM-40: PPMA: —. PGMA: —.	C-LG/RM-40: PPMA: —.	D-LG/RM-40: PPMA: —. PMMA: —. PGMA: —.	E-LG/RM-40: Idaho – CHZ: Consider impacts on GRSG when placing new fences and livestock management facilities, including corrals, loading facilities, water tanks and windmills. Idaho – IHZ: Same as CHZ. Idaho – GHZ: —. Utah Habitat: —.	F-LG/RM-40: PPMA: —. PGMA: —. PRMA: —.
A-LG/RM-41: —.	B-LG/RM-41: PPMA: —. PGMA: —.	C-LG/RM-41: PPMA: —.	D-LG/RM-41: PPMA: —. PMMA: —. PGMA: —.	E-LG/RM-41: Idaho – CHZ: Construct new fences further than one kilometer (0.6 miles) from occupied leks. Idaho – IHZ: Same as CHZ. Idaho – GHZ: —. Utah Habitat: —.	F-LG/RM-41: PPMA: —. PGMA: —. PRMA: —.
A-LG/RM-42: —.	B-LG/RM-42: PPMA: —. PGMA: —.	C-LG/RM-42: PPMA: —.	D-LG/RM-42: PPMA: —. PMMA: —. PGMA: —.	E-LG/RM-42: Idaho – CHZ: Place new, taller structures, including corrals, loading facilities, water storage tanks, windmills, at least one kilometer from occupied leks, to the extent practicable. Idaho – IHZ: Same as CHZ. Idaho – GHZ: —. Utah Habitat: —.	F-LG/RM-42: PPMA: —. PGMA: —. PRMA: —.
Water Development					
A-LG/RM-43: Consider authorization of new water developments on a case-by-case basis taking into consideration impacts on other resources and resource values.	B-LG/RM-43: PPMA: Authorize new water development for diversion from spring or seep source only when PPMA would benefit from the development. This includes developing new water sources for livestock as part of an	C-LG/RM-43: PPMA: —.	D-LG/RM-43: PPMA: Limit authorization of new water developments to projects that would benefit, maintain, or have a neutral effect on PPMA (such as by shifting livestock use away from critical areas).	E-LG/RM-43: Idaho – CHZ: Place and design new water developments in GRSG breeding habitat that provide the greatest enhancement for GRSG and GRSG habitat.	F-LG/RM-43: PPMA: Authorize no new water developments for diversion from spring or seep sources only when within PPMA would benefit from the development. This includes developing new water sources for livestock as part

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
	<p>AMP/conservation plan to improve GRSG habitat.</p> <p>PGMA: Same as PPMA.</p>		<p>New developments that divert surface water must be designed to maintain integrity and functionality riparian or wetland vegetation and hydrology. New developments should also be sited in lower quality habitats or, disturbed areas where possible, and avoid areas that have not had significant prior grazing use (Adopted from Idaho State Plan page 4.64, Appendix D). Ensure that troughs are fitted with wildlife escape ramps to facilitate use of and escape by animals, including GRSG.</p> <p>PMMA: Same as PPMA.</p> <p>PGMA: New water developments that divert surface water must be designed to maintain integrity and functionality of riparian or wetland vegetation and hydrology. New developments should also be sited in lower quality habitats or disturbed areas where possible (Adopted from Idaho State Plan page 4.64, Appendix D). Ensure that troughs are fitted with wildlife escape ramps to facilitate use of and escape by animals, including GRSG.</p>	<p>Idaho – IHZ: Same as CHZ.</p> <p>Idaho – GHZ: —.</p> <p>Utah Habitat: Design water developments to enhance mesic habitat for use by GRSG and maintain adequate vegetation in wet meadows. Within PPMA, GRSG stipulations should take precedence over stipulations for other species if conflicts occur, if otherwise allowable by law.</p>	<p>of an AMP/conservation plan to improve GRSG habitat.</p> <p>PGMA: —.</p> <p>PRMA: —.</p>
<p>A-LG/RM-44: Consider modifications to existing water developments on a case-by-case basis taking into consideration impacts on other resources.</p>	<p>B-LG/RM-44: PPMA: Analyze springs, seeps and associated pipelines to determine if modifications are necessary to maintain the continuity of the predevelopment riparian area within PPMA. Make modifications where necessary, considering impacts on other water uses when such considerations are neutral or beneficial to GRSG.</p> <p>PGMA: —.</p>	<p>C-LG/RM-44: PPMA: —.</p>	<p>D-LG/RM-44: PPMA: During project inspections, evaluate the design and condition of existing water developments (headboxes, exclosures, pipelines, ponds, and troughs) at springs, wetlands, or playas to determine if modification, repair or retrofitting or removal is needed to maintain or restore the integrity and functionality of the riparian/lentic areas to current site potential within priority GRSG habitat. Modifications may include, but are not limited to:</p> <ul style="list-style-type: none">• Installing float valves on troughs• Reconfiguring exclosure fencing• Moving troughs out of riparian/lentic areas	<p>E-LG/RM-44: Idaho – Common to All Habitat: —.</p> <p>Utah Habitat: —.</p>	<p>F-LG/RM-44: PPMA: Analyze springs, seeps and associated water developments pipelines to determine if modifications are necessary to maintain the continuity of the predevelopment riparian area within PPMA. Make modifications where necessary, including dismantling water developments considering impacts on other water uses when such considerations are neutral or beneficial to GRSG.</p> <p>PGMA: —.</p> <p>PRMA: —.</p>

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
			<ul style="list-style-type: none">Modifying the slope at the edge of ponds to reduce mosquito breeding habitat and West Nile virus. <p>Ensure that troughs are fitted with functional wildlife escape ramps to facilitate use of and escape by animals, including GRSG.</p> <p>PMMA: Same as PPMA.</p> <p>PGMA: Same as PPMA.</p>		
A-LG/RM-45: Manage, maintain, protect, and restore riparian and wetland areas to PFC.	B-LG/RM-45: PPMA: —. PGMA: —.	C-LG/RM-45: PPMA: —.	D-LG/RM-45: PPMA: —. PMMA: —. PGMA: —.	E-LG/RM-45: Idaho – CHZ: Design new spring developments in GRSG habitat to maintain or enhance the free-flowing characteristics of springs and wet meadows. Modify developed springs, seeps and associated pipelines to maintain the continuity of the predevelopment riparian area within priority GRSG habitat where necessary. Idaho – IHZ: Same as CHZ. Idaho – GHZ: —. Utah Habitat: —.	F-LG/RM-45: PPMA: —. PGMA: —. PRMA: —.
A-LG/RM-46: —.	B-LG/RM-46: PPMA: —. PGMA: —.	C-LG/RM-46: PPMA: —.	D-LG/RM-46: PPMA: —. PMMA: —. PGMA: —.	E-LG/RM-46: Idaho – CHZ: Install ramps in new and existing livestock troughs and open water storage tanks to facilitate the use of and escape from troughs by GRSG and other wildlife. Idaho – IHZ: Same as Idaho - CHZ. Idaho – GHZ: —. Utah Habitat: —.	F-LG/RM-46: PPMA: —. PGMA: —. PRMA: —.
A-LG/RM-47: —.	B-LG/RM-47: PPMA: —. PGMA: —.	C-LG/RM-47: PPMA: —.	D-LG/RM-47: PPMA: —. PMMA: —. PGMA: —.	E-LG/RM-47: Idaho – CHZ: Avoid installation of new water developments in higher quality native breeding/early brood habitats that have not had significant prior grazing use except in situations in which water developments	F-LG/RM-47: PPMA: —. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
				may aid in better livestock distribution across the allotment and will not adversely impact the species. Idaho – IHZ: Same as CHZ. Idaho – GHZ: —. Utah Habitat: —.	
West Nile Virus					
A-LG/RM-48: —.	B-LG/RM-48: PPMA: When developing or modifying water developments in PPMA, use applicable best management practices (BMPs, see Appendix C) to mitigate potential impacts from West Nile virus (Clark et al. 2006; Doherty 2007; Walker et al. 2007; Walker and Naugle 2011). PGMA: —.	C-LG/RM-48: PPMA: —.	D-LG/RM-48: PPMA: When developing or modifying water developments in PPMA, use BMPs (Appendix C) to mitigate potential impacts from West Nile virus (Clark et al. 2006, Doherty 2007, Walker et al. 2007, Walker and Naugle 2011). PMMA: Same as PPMA. PGMA: Same as PPMA.	E-LG/RM-48: Idaho – Common to All Habitat: —. Utah Habitat: —.	F-LG/RM-48: PPMA: Same as Alternative B. PGMA: —. PRMA: —.
A-LG/RM-49: —.	B-LG/RM-49: PPMA: —. PGMA: —.	C-LG/RM-49: PPMA: —.	D-LG/RM-49: PPMA: —. PMMA: —. PGMA: —.	E-LG/RM-49: Idaho – CHZ: Return water to the original water source, to the extent practicable, to reduce suitable habitat for mosquitoes. Idaho – IHZ: Same as CHZ. Idaho – GHZ: —. Utah Habitat: —.	F-LG/RM-49: PPMA: No action. PGMA: —. PRMA: —.
A-LG/RM-50: —.	B-LG/RM-50: PPMA: —. PGMA: —.	C-LG/RM-50: PPMA: —.	D-LG/RM-50: PPMA: —. PMMA: —. PGMA: —.	E-LG/RM-50: Idaho – CHZ: Minimize creation of breeding habitat for mosquitoes in GRSG habitat to reduce the risk of transmission of West Nile virus to GRSG. Idaho – IHZ: Same as CHZ. Idaho – CHZ: Same as CHZ. Utah Habitat: —.	F-LG/RM-50: PPMA: —. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
A-LG/RM-51: —.	B-LG/RM-51: PPMA: —. PGMA: —.	C-LG/RM-51: PPMA: —.	D-LG/RM-51: PPMA: —. PMMA: —. PGMA: —.	E-LG/RM-51: Idaho – CHZ: Permit and design new ponds or reservoirs to reduce the potential impacts of West Nile Virus transmission. Idaho – IHZ: Same as CHZ. Idaho – GHZ: Same as CHZ. Utah Habitat: —.	F-LG/RM-51: PPMA: —. PGMA: —. PRMA: —.
A-LG/RM-52: —.	B-LG/RM-52: PPMA: —. PGMA: —.	C-LG/RM-52: PPMA: —.	D-LG/RM-52: PPMA: —. PMMA: —. PGMA: —.	E-LG/RM-52: Idaho – CHZ: Minimize the construction of new ponds or reservoirs except as needed to meet important resource management and/or restoration objectives. Idaho – IHZ: Same as CHZ. Idaho – GHZ: —. Utah Habitat: —.	F-LG/RM-52: PPMA: —. PGMA: —. PRMA: —.
A-LG/RM-53: —.	B-LG/RM-53: PPMA: —. PGMA: —.	C-LG/RM-53: PPMA: —.	D-LG/RM-53: PPMA: —. PMMA: —. PGMA: —.	E-LG/RM-53: Idaho – CHZ: Develop and maintain non-pond/reservoir watering facilities, such as troughs and bottomless tanks, to provide high quality water that minimizes the development of habitat for mosquitoes. Idaho – IHZ: Same as CHZ. Idaho – GHZ: Same as CHZ. Utah Habitat: —.	F-LG/RM-53: PPMA: —. PGMA: —. PRMA: —.
A-LG/RM-54: —.	B-LG/RM-54: PPMA: —. PGMA: —.	C-LG/RM-54: PPMA: —.	D-LG/RM-54: PPMA: —. PMMA: —. PGMA: —.	E-LG/RM-54: Idaho – CHZ: Construct water return features and maintain functioning float valves to prohibit water from being spilled on the ground surrounding the trough and/or tank. Idaho – IHZ: Same as CHZ. Idaho – GHZ: —.	F-LG/RM-54: PPMA: —. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
				Utah Habitat: —.	
Recreation and Visitor Services					
A-RC-1: Consider BLM SRPs and Forest Service Recreation SUAs on a case-by-case basis. Consider measures that will minimize impacts on important resources or resource values. Montana BLM: Authorize SRPs in accordance with SRPH 2930-1. No acres are excluded from SRPs (Pg. 54 ROD/RMP).	B-RC-1: PPMA: Only allow BLM SRPs and Forest Service Recreation SUAs in PPMA that have neutral or beneficial effects on PPMA. PGMA: —.	C-RC-1: PPMA: Same as Alternative A.	D-RC-1: PPMA: SRPs and Forest Service Recreation SUAs would be analyzed on a case-by-case basis per BLM Special Recreation Permit Manual 2930, FSH 2709.11 and through the NEPA process to minimize impacts on GRSG and/or habitat by directing use away from sensitive seasons and/or areas. Coordinate issuance of recreation permits with IDFG and Idaho Outfitter and Guide licensing board when relevant and appropriate. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-RC-1: Idaho – Common to All Habitats: —. Montana Habitat: Same as Alternative A. Utah Habitat: Limit or ameliorate impacts from recreation activities through the use of the general stipulations identified in the GRSG section.	F-RC-1: PPMA: Same as Alternative B. PGMA: —. PRMA: —.
A-RC-2: —.	B-RC-2: PPMA: —. PGMA: —.	C-RC-2: PPMA: Action: Same as Alternative A.	D-RC-2: PPMA: Designate or design developed recreation sites and associated facilities to direct use away from sensitive areas and provide sustainable recreational opportunities. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-RC-2: Idaho – Common to All Habitat: —. Utah Habitat: —.	F-RC-2: PPMA: Seasonally prohibit camping and other non-motorized recreation within 4 miles of active GRSG leks. PGMA: —. PRMA: —.
A-RC-3: —.	B-RC-3: PPMA: —. PGMA: —.	C-RC-3: PPMA: —.	D-RC-3: PPMA: Incorporate seasonal restrictions for authorized activities to minimize impacts on GRSG and/or their habitat. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-RC-3: Idaho – Common to All Habitat: —. Utah Habitat: —.	F-RC-3: PPMA: —. PGMA: —. PRMA: —.
A-RC-4: —.	B-RC-4: PPMA: —. PGMA: —.	C-RC-4: PPMA: —.	D-RC-4: PPMA: Recreation activities and developed recreation sites and facilities within lands not designated as a recreation management area would be managed and designed to minimize adverse effects on GRSG by directing use away from sensitive areas.	E-RC-4: Idaho – Common to All Habitat: —. Utah Habitat: —.	F-RC-4: PPMA: —. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
			PMMA: Same as PPMA. PGMA: Same as PPMA.		
Travel Management					
<p>A-TM-1: OHV use will be managed as open, closed, or limited to existing roads, primitive roads, and trails as identified in Table 2-2.</p> <p>Montana BLM: All motorized travel is restricted to designated routes. There are 920 miles of designated routes in PPH and 400 miles in PGH. No off-road travel allowed by the public.</p> <p>Forest Service-administered lands: Travel planning is complete and all Forest Service-administered lands with a designated route system are considered the same as the limited designation on BLM-administered lands.</p>	<p>B-TM-1: PPMA: Limit motorized travel to existing roads, primitive roads, and trails at a minimum, until such time as travel management planning is complete and routes are either designated or closed (see Table 2-2).</p> <p>Same as Alternative A for Forest Service-administered lands.</p> <p>PGMA: Same as Alternative A.</p>	<p>C-TM-1: PPMA: Same as Alternative B (see Table 2-2).</p> <p>Same as Alternative A for Forest Service-administered lands.</p>	<p>D-TM-1: PPMA: Limit motorized travel to existing roads, primitive roads, and trails at a minimum until such time as travel management planning is complete and routes are either designated or closed. Existing designated OHV open “play” areas would remain open (see Table 2-2).</p> <p>Same as Alternative A for Forest Service-administered lands.</p> <p>PMMA: Same as PPMA.</p> <p>PGMA: Same as PPMA.</p>	<p>E-TM-1: Idaho – Common to All Habitats: Same as Alternative B (see Table 2-2).</p> <p>Same as Alternative A for Forest Service-administered lands.</p> <p>Montana Habitat: Same as Alternative A.</p> <p>Utah Habitat: PPMA with nesting and winter habitat that do not have designated routes in a Travel Management Plan would be managed at least as limited to existing roads and trails (i.e., could maintain existing OHV closures) until a Travel Management Plan designates routes. PPMA with nesting and winter habitat that have undergone Travel Management Planning with route designation would be managed at least as limited to designated routes (i.e., could maintain existing OHV closures). In these areas, existing route designations would be reviewed and adjusted where impacts on GRSG from route presence or use may exist.</p>	<p>F-TM-1: PPMA: Same as Alternative B (see Table 2-2).</p> <p>Same as Alternative A for Forest Service-administered lands.</p> <p>PGMA: Same as PPMA.</p> <p>PRMA: Same as Alternative A.</p>
<p>A-TM-2: All LUPs include management actions that encourage the administrating agency to follow best management practices that reduce or minimize the impacts of development, including use of existing roads where possible.</p>	<p>B-TM-2: PPMA: —.</p> <p>PGMA: —.</p>	<p>C-TM-2: PPMA: Same as Alternative B.</p>	<p>D-TM-2: PPMA: —.</p> <p>PMMA: —.</p> <p>PGMA: —.</p>	<p>E-TM-2: Idaho – Common to All Habitats: —.</p> <p>Utah Habitat: —.</p>	<p>F-TM-2: PPMA: During travel management planning, prohibit new road construction within 4 miles of active GRSG leks, and avoid new road construction in PPMA.</p> <p>PGMA: —.</p> <p>PRMA: —.</p>
<p>A-TM-3: —. Under current policy, the need for permanent or seasonal road closures is evaluated during travel</p>	<p>B-TM-3: PPMA: Travel management should evaluate the need for permanent or seasonal road closures.</p>	<p>C-TM-3: PPMA: Same as Alternative B.</p>	<p>D-TM-3: PPMA: Travel management planning would evaluate the need for permanent or seasonal road closures as</p>	<p>E-TM-3: Idaho – Common to All Habitats: —.</p>	<p>F-TM-3: PPMA: Same as Alternative B.</p>

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
management planning.	PGMA: —.		per Travel Management Handbook 8342.1. PMMA: Same as PPMA. PGMA: Same as PPMA.	Utah Habitat: —.	PGMA: —. PRMA: —.
A-TM-4: Consider route and trail modifications (new or existing) on a case-by-case basis. Identify travel management areas and prioritize travel management planning in areas where it would provide the most resource benefit.	B-TM-4: PPMA: Complete activity level travel plans within five years of the ROD. During activity level planning, where appropriate, designate routes in PPMA with current administrative/agency purpose or need to administrative access only. PGMA: —.	C-TM-4: PPMA: Same as Alternative B.	D-TM-4: PPMA: Prioritize areas for complete transportation management plans as per Travel Management Handbook 8342.1. PMMA: Complete Transportation management plans as per Travel Management Handbook 8342.1. PGMA: Same as PPMA.	E-TM-4: Idaho – Common to All Habitats: —. Utah Habitat: Counties should adopt and enforce travel management plans that include consideration for greater GRSG.	F-TM-4: PPMA: Same as Alternative B. PGMA: —. PRMA: —.
A-TM-5: Consider route and trail modifications (new or existing) on a case-by-case basis using the designation criteria.	B-TM-5: PPMA: Limit route construction to realignments of existing designated routes if that realignment has a minimal impact on GRSG habitat, eliminates the need to construct a new road, or is necessary for motorist safety. PGMA: —.	C-TM-5: PPMA: Same as Alternative B.	D-TM-5: PPMA: Consider GRSG objectives during subsequent travel management planning. Design and designate a travel system to minimize adverse effects on GRSG (i.e., designate or design routes to direct use away from sensitive areas and still provide for high-quality and sustainable travel routes and administrative access, legislatively mandated requirements, and commercial needs). Allow for route upgrade, closure of existing routes, and creation of new routes to help protect habitat and meet user group needs, thereby reducing the potential for pioneering unauthorized routes. The emphasis of the comprehensive travel and transportation planning within PPMA would be placed on having a neutral or positive effect on GRSG habitat. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-TM-5: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-TM-5: PPMA: Limit route construction to realignments of existing designated routes if that realignment has a minimal impact on GRSG habitat, eliminates the need to construct a new road, or is necessary for motorist safety. Mitigate any impacts with methods that have been demonstrated to be effective to offset the loss of GRSG habitat. PGMA: —. PRMA: —.
A-TM-6: All LUPs include management actions that encourage the administrating agency to follow best management practices that reduce or	B-TM-6: PPMA: Use existing roads or realignments as described above to access valid existing rights that are not yet developed. If valid existing rights	C-TM-6: PPMA: Same as Alternative B.	D-TM-6: PPMA: —. PMMA: —.	E-TM-6: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-TM-6: PPMA: Same as Alternative B using a 4-mile buffer from leks to determine road route.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
minimize the impacts of development, including use of existing roads where possible.	cannot be accessed via existing roads, then build any new road constructed to the absolute minimum standard necessary, and add the surface disturbance to the total disturbance in PPMA. If that disturbance exceeds 3 % for that area, then evaluate and implement additional, effective mitigation necessary to offset the resulting loss of GRSG habitat (see Objectives, Table 2-19). PGMA: —.		PGMA: —.		PGMA: —. PRMA: —.
A-TM-7: —. The need for restoration of linear disturbances (unauthorized routes) is identified during the implementation level travel management process or on a case-by-case basis.	B-TM-7: PPMA: Conduct restoration of roads, primitive roads and trails not designated in travel management plans. This also includes primitive route/roads that were not designated in Wilderness Study Areas and within lands with wilderness characteristics that have been selected for protection in previous LUPs. PGMA: —.	C-TM-7: PPMA: Same as Alternative B.	D-TM-7: PPMA: During subsequent travel management planning, prioritize restoration of linear disturbances (those routes not designated in a Travel Management Plan) in PPMA. PMMA: During subsequent travel management planning, prioritize restoration of linear disturbances (those routes not designated in a Travel Management Plan) after PPMA. PGMA: During subsequent travel management planning, prioritize restoration of linear disturbances (those routes not designated in a Travel Management Plan) after PMMA.	E-TM-7: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-TM-7: PPMA: Same as Alternative B. PGMA: —. PRMA: —.
A-TM-8: —.	B-TM-8: PPMA: When reseeding roads, primitive roads and trails in PPMA, use appropriate seed mixes and consider the use of transplanted sagebrush. PGMA: —.	C-TM-8: PPMA: Same as Alternative B.	D-TM-8: PPMA: During subsequent travel management planning, consider using seed mixes or transplant techniques that will maintain or enhance GRSG habitat when rehabilitating linear disturbances. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-TM-8: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-TM-8: PPMA: When reseeding closed roads, primitive roads and trails, use appropriate native seed mixes and require consider the use of transplanted sagebrush. PGMA: —. PRMA: —.
A-TM-9: —.	B-TM-9: PPMA: —. PGMA: —.	C-TM-9: PPMA: —.	D-TM-9: PPMA: During subsequent travel management planning, schedule road maintenance to avoid disturbance during sensitive periods and times to	E-TM-9: Idaho – Common to All Habitats: —.	F-TM-9: PPMA: No action. PGMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
			the extent practicable. Use time of day limits (After 10:00 AM to 7:00 PM) to reduce impacts on GRSG during breeding and nesting. PMMA: Same as PPMA. PGMA: Same as PPMA.	Utah Habitat: —.	PRMA: —.
A-TM-10: —.	B-TM-10: PPMA: —. PGMA: —.	C-TM-10: PPMA: —.	D-TM-10: PPMA: During subsequent travel management planning, limit snow machine travel to existing routes in GRSG wintering areas from November 1 through March 31. Assess routes during subsequent travel management planning. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-TM-10: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-TM-10: PPMA: —. PGMA: —. PRMA: —.
A-TM-11: —.	B-TM-11: PPMA: —. PGMA: —.	C-TM-11: PPMA: —.	D-TM-11: PPMA: —. PMMA: —. PGMA: —.	E-TM-11: Idaho – Common to All Habitats: —. Utah Habitat: Develop an educational process to advise OHV users of the potential for conflict with GRSG.	F-TM-11: PPMA: —. PGMA: —. PRMA: —.
Lands and Realty					
Wind and Solar Energy					
A-LR-1: ROW grants are issued for wind and solar energy development on a case-by-case basis.	B-LR-1: PPMA: —. PGMA: —.	C-LR-1: PPMA: —.	D-LR-1: PPMA: Solar and wind energy development is not allowed. PMMA: Wind and solar energy development would be restricted where adverse effects could not be mitigated. Ancillary facilities such as roads, electric lines, etc. could potentially be authorized provided there is no net loss of GRSG habitat through mitigation. PGMA: Lands shall be considered avoidance areas for wind and solar development.	E-LR-1: Idaho – Common to All Habitats: See Action E-LR-3. Utah Habitat: —.	F-LR-1: PPMA: Do not site wind energy development in PPMA (Jones 2012). PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
A-LR-2: —.	B-LR-2: PPMA: —. PGMA: —.	C-LR-2: PPMA: —.	D-LR-2: PPMA: —. PMMA: —. PGMA: —.	E-LR-2: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-LR-2: PPMA: Site wind energy development at least five miles from active GRSG leks. PGMA: —. PRMA: —.
Rights-of-way					
A-LR-3: Continue to manage existing ROW avoidance and exclusion areas (see Table 2-2). Montana BLM: Manage designated ROW avoidance areas on 123,300 acres and ROW exclusion areas on 6,470 acres	B-LR-3: PPMA: Make PPMA an exclusion area for new BLM ROW or Forest Service SUA permits (see Table 2-2). Consider the following exceptions: <ul style="list-style-type: none">Within designated ROW or SUA corridors encumbered by existing ROW or SUA authorizations: new ROWs or SUAs may be co-located only if the entire footprint of the proposed project (including construction and staging), can be completed within the existing disturbance associated with the authorized ROWs or SUAs.Subject to valid existing rights: where new ROWs or SUAs associated with valid existing rights are required, co-locate new ROWs or SUAs within existing ROWs or SUAs or where it best minimizes GRSG impacts. Use existing roads, or realignments as described above, to access valid existing rights that are not yet developed. If valid existing rights cannot be accessed via existing roads, then build any new road constructed to the absolute minimum standard necessary, and add the surface disturbance to the total disturbance in PPMA. If that disturbance exceeds 3% for that area, then evaluate and implement additional effective mitigation on a	C-LR-3: PPMA: New corridors/facilities will be sited in non-habitat and bundled with existing corridors to the maximum extent possible (see Table 2-2).	D-LR-3: PPMA: Designate PPMA as ROW Avoidance areas and exclusion areas for wind and solar development (see Table 2-2). New authorizations for the following uses are not allowed: Transmission facilities (greater than 50kV in size), wind energy testing and development, commercial solar development, commercial geothermal development, nuclear development, oil and gas development, mineral development, airports, and ancillary facilities associated with any of the aforementioned development; paved roads and graded gravel roads, landfills, airports, and hydroelectric projects. Communication sites would be allowed. PMMA: Designate PMMA as ROW Avoidance areas. Access roads or loop roads would be addressed during the ROW authorization processing and on a case-by-case basis. PGMA: Same as PMMA.	E-LR-3: Idaho – CHZ: Designate CHZ as ROW avoidance areas with limited exceptions permissible and subject to BMPs. Compensatory mitigation would be required (see Table 2-2). Idaho – IHZ: Designate IHZ as ROW avoidance areas. New ROWs and infrastructure are permissible subject to certain criteria and BMPs similar to those required for habitat in Utah. Mitigate unavoidable impacts. Idaho – GHZ: Manage new ROWs consistent with local resource management plans. There are no special conservation measures for GRSG in addition to those measures contained within existing land use plans regarding infrastructure development within GHZ. Montana Habitat: Same as Alternative A. Utah Habitat: Management stipulations and conditions should focus on mitigating direct disturbance during construction for all ROWs in PPMA. Should new research demonstrate indirect impacts on GRSG	F-LR-3: PPMA: PPMA shall be an exclusion area for new ROWs permits (see Table 2-2). Consider the following exceptions: <ul style="list-style-type: none">Within designated ROW corridors encumbered by existing ROW authorizations: new ROWs may be co-located only if the entire footprint of the proposed project (including construction and staging), can be completed within the existing disturbance associated with the authorized ROWs.Subject to valid existing rights: where new ROWs associated with valid existing rights are required, co-locate new ROWs within existing ROWs or where it best minimizes GRSG impacts. Use existing roads, or realignments as described above, to access valid existing rights that are not yet developed. If valid existing rights cannot be accessed via existing roads, then build any new road constructed to the absolute minimum standard necessary, and add the surface disturbance to the total disturbance in PPMA. If that disturbance exceeds 3% for that area, then make additional effective mitigation necessary that has been demonstrated to be effective to offset the resulting loss of GRSG

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
	<p>case-by-case basis to offset the resulting loss of GRSG habitat.</p> <p>PGMA: Make PGMA an avoidance area for new ROWs or SUAs.</p>			<p>production, additional mitigation measures may be required. PPMA would be designated as an avoidance area for new ROWs.</p> <p>Limit or ameliorate impacts from ROW location, including from wind and solar energy development, through the use of the general stipulations identified in the GRSG section, as well as best management practices accepted by industry and state and federal agencies.</p> <p>For electrical transmission lines, and where feasible and consistent with federally required electrical separation standards, site new linear transmission features in existing corridors, or at a minimum, in concert with existing linear features in GRSG habitat. Siting linear features accordingly shall be deemed to be mitigation for the siting of that linear feature. Mitigation for the direct effects of construction is still required. PPMA would be available for wind energy development, though it would be designated as an avoidance area for wind energy development.</p>	<p>habitat.</p> <p>PGMA: Same as Alternative A.</p> <p>PRMA: Same as Alternative A.</p>
<p>A-LR-4: The presence of sensitive resources, such as sagebrush habitat, is typically examined before a ROW grant is issued.</p>	<p>B-LR-4: PPMA: —.</p> <p>PGMA: —.</p>	<p>C-LR-4: PPMA: ROWs will be amended to require features that enhance GRSG habitat security.</p>	<p>D-LR-4: PPMA: —.</p> <p>PMMA: —.</p> <p>PGMA: —.</p>	<p>E-LR-4: Idaho – CHZ: Maintain and improve GRSG populations within CHZ, while allowing, and mitigating, for new and limited infrastructure development identified by the Implementation Commission as high value and where the proposed action can meet certain criteria.</p> <p>Idaho – IHZ: Infrastructure is generally permissible, but requires analysis of whether it can be reasonably accomplished outside IHZ.</p> <p>Idaho – GHZ: —.</p> <p>Utah Habitat: —.</p>	<p>F-LR-4: PPMA: —.</p> <p>PGMA: —.</p> <p>PRMA: —.</p>

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
A-LR-5: —.	B-LR-5: PPMA: —. PGMA: —.	C-LR-5: PPMA: —.	D-LR-5: PPMA: New ROW and land use authorizations, unless otherwise excluded, would be avoided whenever possible. Any new ROW and land use authorizations would not result in a net loss of GRSG habitat of the respective PPMA. PMMA: Same as PPMA. PGMA: New ROW and land use authorizations would be avoided whenever possible.	E-LR-5: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-LR-5: PPMA: —. PGMA: —. PRMA: —.
A-LR-6: —.	B-LR-6: PPMA: —. PGMA: —.	C-LR-6: PPMA: —.	D-LR-6: PPMA: New authorizations and amendments to existing ROW and land use authorizations would be subject to siting prescriptions and design features considered on a case-by-case basis, in subsequent NEPA analysis. This could include amendments to the types of uses that are excluded from consideration as new authorizations. For example upgrade of an existing 50-kV power line to a 115-kV power line, to eliminate the need for an additional line could be considered. PMMA: New authorizations and amendments to existing ROW and land use authorizations would be considered subject to siting prescriptions and design features considered on a case-by-case basis, in subsequent NEPA analysis. PGMA: Same as PMMA.	E-LR-6: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-LR-6: PPMA: —. PGMA: —. PRMA: —.
A-LR-7: —.	B-LR-7: PPMA: —. PGMA: Where new ROWs or SUAs are necessary in PGMA, co-locate new ROWs or SUAs within existing ROWs or SUAs where possible.	C-LR-7: PPMA: —.	D-LR-7: PPMA: New authorizations or amendments to existing ROW and land use authorizations should be sited substantially within an existing disturbance or minimum necessary adjacent to the existing footprint, where feasible.	E-LR-7: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-LR-7: PPMA: —. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
			PMMA: New authorizations or amendments to existing ROW and land use authorizations should be sited substantially within the existing disturbance footprints where feasible. PGMA: Same as PMMA.		
A-LR-8: —.	B-LR-8: PPMA: —. PGMA: —.	C-LR-8: PPMA: —.	D-LR-8: PPMA: When reauthorizing transmission or authorizing and/or reauthorizing distribution lines, incorporate RDFs into the authorization. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-LR-8: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-LR-8: PPMA: —. PGMA: —. PRMA: —.
A-LR-9: —.	B-LR-9: PPMA: —. PGMA: —.	C-LR-9: PPMA: —.	D-LR-9: PPMA: Site new authorizations or facilities, not otherwise excluded, outside the 3 km (1.86 miles) occupied lek avoidance buffer areas unless NEPA analysis suggests that a greater or lesser distance is required, based on topographic features or other mitigating factors. If new distribution lines (50 kV or less) cannot be sited outside the 3 km buffer, they should be buried or designed to minimize use by avian predators. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-LR-9: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-LR-9: PPMA: —. PGMA: —. PRMA: —.
A-LR-10: —.	B-LR-10: PPMA: Evaluate and take advantage of opportunities to remove, bury, or modify existing power lines within PPMA. PGMA: —.	C-LR-10: PPMA: Same as Alternative B.	D-LR-10: PPMA: New power and communication lines (50 kV or less), outside of existing ROWs, would be buried, where physically feasible, and associated above-ground disturbance areas would be seeded with perennial vegetation as per vegetation management. PMMA: Same as PPMA. PGMA: Same as PMMA.	E-LR-10: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-LR-10: PPMA: Same as Alternative B. PGMA: —. PRMA: —.
A-LR-11: All LUPs include	B-LR-11: PPMA: Where existing leases	C-LR-11: PPMA: Same as Alternative	D-LR-11: PPMA: —.	E-LR-11: Idaho – CHZ: Prohibit the	F-LR-11: PPMA: Same as Alternative

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
management actions that require reclamation/restoration of disturbed areas that are no longer used in support of authorized actions.	<p>or ROWs or SUAs have had some level of development (road, fence, well, etc.) and are no longer in use, reclaim the site by removing these features and restoring the habitat.</p> <p>PGMA: —.</p>	B.	<p>PMMA: —.</p> <p>PGMA: —.</p>	<p>development of infrastructure, except if developed pursuant to valid existing rights or incremental upgrade and/or capacity increase of existing development (authorized prior to the ROD) subject to best management practices in Appendix D.</p> <p>a. Limit impacts of proposed actions to the existing authorized footprint with no more than a fifty percent (50%), depending on industry practice, increase in footprint size and associated impacts; and</p> <p>b. Include compensatory mitigation if new significant and unavoidable impacts are demonstrated to be associated with the project.</p> <p>c. Any exceptions to ROW development in CHZ would conform to the standards set forth for IHZ within the same CA.</p> <p>Idaho – IHZ: Authorize new infrastructure development where the following circumstances exist.</p> <p>a. The project cannot reasonably be achieved, technically or economically, outside of this management zone; and</p> <p>b. The project is co-located within the footprint for existing infrastructure, to the extent practicable. In the event co-location is not practicable, the siting should best reduce cumulative impacts and/or impacts on other high value natural, cultural, or societal resources; and</p> <p>c. The project does not result in unnecessary and undue habitat fragmentation or other impacts causing a decline in the population of the species within the relevant CA; and</p> <p>d. The project design mitigates unavoidable impacts through an appropriate compensatory mitigation</p>	<p>B.</p> <p>PGMA: —.</p> <p>PRMA: —.</p>

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
				<p>plan; and</p> <p>e. The project complies with the applicable best management practices in Appendix D.</p> <p>Idaho – GHZ: Authorize infrastructure construction consistent with the relevant land management components as provided for in Appendix D.</p> <p>Utah Habitat: —.</p>	
<p>A-LR-12: —.</p>	<p>B-LR-12: PPMA: Planning Direction Note: Relocate existing designated ROW corridors crossing PPMA void of any authorized ROWs, outside of PPMA. If relocation is not possible, undesignate that entire corridor during the planning process.</p> <p>PGMA: —.</p>	<p>C-LR-12: PPMA: Same as Alternative B.</p>	<p>D-LR-12: PPMA: —.</p> <p>PMMA: —.</p> <p>PGMA: —.</p>	<p>E-LR-12: Idaho – CHZ: Prohibit the development of infrastructure with limited exceptions analyzed by the Implementation Task Force as part of the site-specific NEPA analysis. The following criteria would be used in those assessments:</p> <p>a. The project is developed pursuant to a valid existing authorization;</p> <p>b. The project is an incremental upgrade/capacity increase of existing development;</p> <p>c. Cannot be reasonably accomplished outside of CHZ;</p> <p>d. Can be co-located within the existing infrastructure;</p> <p>e. Demonstrates the population trend for the species within the relevant CA is stable or increasing over a three-year period;</p> <p>f. Project would benefit the state of Idaho</p> <p>g. Shall mitigate unavoidable impacts according to Idaho’s Mitigation Framework (Appendix D).</p> <p>The Governor would consult with the BLM and Forest Service on the Implementation Task Force’s recommendation, which the BLM and Forest Service must consider during the project’s permit application.</p>	<p>F-LR-12: PPMA: Same as Alternative B.</p> <p>PGMA: —.</p> <p>PRMA: —.</p>

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Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
				Idaho – IHZ: —. Idaho – GHZ: —. Utah Habitat: —.	
A-LR-13: —.	B-LR-13: PPMA: —. PGMA: —.	C-LR-13: PPMA: —.	D-LR-13: PPMA: —. PMMA: —. PGMA: —.	E-LR-13: Idaho – CHZ: Allow for exemptions to new infrastructure development where a project proponent can satisfy all of the stringent criteria identified in the regulatory language and provide compensatory mitigation.	F-LR-13: PPMA: —. PGMA: —. PRMA: —.
A-LR-14: —.	B-LR-14: PPMA: —. PGMA: —.	C-LR-14: PPMA: —.	D-LR-14: PPMA: —. PMMA: —. PGMA: —.	E-LR-14: Idaho – CHZ: In allowing for new infrastructure development exemptions, the project proponent must demonstrate that the project would provide a high-value benefit to meet critical existing needs or important societal objectives to the State of Idaho. Coordinate exemptions with the State Implementation Commission.	F-LR-14: PPMA: —. PGMA: —. PRMA: —.
A-LR-15: —.	B-LR-15: PPMA: —. PGMA: —.	C-LR-15: PPMA: —.	D-LR-15: PPMA: Process unauthorized use. If the unauthorized use does not serve the best interest of the public, reclaim the site by removing these features and restoring the habitat. If the use needs to be authorized, management actions for new authorizations would need to be consistent with objectives for conserving GRSG. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-LR-15: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-LR-15: PPMA: —. PGMA: —. PRMA: —.
A-LR-16: —.	B-LR-16: PPMA: —. PGMA: —.	C-LR-16: PPMA: —.	D-LR-16: PPMA: Land authorizations that are temporary in nature (e.g., film permits, apiaries), that do not result in loss of GRSG habitat would be subject to seasonal or timing restrictions and are otherwise exempt from mitigation requirements regarding habitat loss.	E-LR-16: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-LR-16: PPMA: —. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
			PMMA: Same as PPMA. PGMA: Same as PPMA.		
A-LR-17: —.	B-LR-17: PPMA: —. PGMA: —.	C-LR-17: PPMA: —.	D-LR-17: PPMA: Guy wires will be avoided where feasible. Where guy wires are necessary and appropriate without causing a human safety risk, bird collision diverters will be required. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-LR-17: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-LR-17: PPMA: —. PGMA: —. PRMA: —.
A-LR-18: —.	B-LR-18: PPMA: —. PGMA: —.	C-LR-18: PPMA: —.	D-LR-18: PPMA: Design structures and facilities to reduce perching and nesting opportunities for avian predators. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-LR-18: Idaho – Common to All Habitats: —. Utah Habitat: Predation control and management should be managed by Wildlife Services, Department of Agriculture and Food, in coordination with the Division of Wildlife Resources. Eliminate or minimize external food sources for corvids, particularly dumps, waste transfer facilities, and road kill. Apply habitat management practices (e.g., grazing management, vegetation treatments) that decrease the effectiveness of predators.	F-LR-18: PPMA: —. PGMA: —. PRMA: —.
Land Tenure					
A-LR-19: In order to be considered for any form of land tenure adjustment, all lands not specifically identified for disposal must meet criteria included in FLPMA and in each LUP. Montana BLM: Retention Lands identified on 31,600 acres of PPH; 25,400 acres of PGH. Disposal Lands identified on 426 acres of PPH and 2,191 acres of PGH.	B-LR-19: PPMA: Retain public ownership of PPMA. Consider exceptions where: There is mixed ownership, and land exchanges would allow for additional or more contiguous federal ownership patterns within PPMA. In PPMA with minority federal ownership, include an additional, effective mitigation agreement for any disposal of federal land. As a final preservation measure, consideration should be given to pursuing a permanent conservation easement. PGMA: —.	C-LR-19: PPMA: All BLM-administered lands in ACECs, occupied habitats, and identified restoration and rehab land areas will be retained in public ownership.	D-LR-19: PPMA: Acquire habitat when possible and retain ownership of habitat, except if a land exchange would allow for additional or more contiguous federal ownership patterns within PPMA. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-LR-19: Idaho – Common to All Habitats: —. Montana Habitat: Same as Alternative A. Utah Habitat: —.	F-LR-19: PPMA: Same as Alternative B, without exceptions for disposal to consolidate ownership that would be beneficial to GRSG. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
A-LR-20: —.	B-LR-20: PPMA: —. PGMA: —.	C-LR-20: PPMA: —.	D-LR-20: PPMA: Lands currently identified for retention within PPMA would be retained unless disposal of those lands would increase the extent or provide for connectivity of PPMA. PMMA: —. PGMA: —.	E-LR-20: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-LR-20: PPMA: No action. PGMA: —. PRMA: —.
A-LR-21: —.	B-LR-21: PPMA: —. PGMA: —.	C-LR-21: PPMA: —.	D-LR-21: PPMA: Evaluate potential land exchanges containing historically low-quality GRSG habitat that may be too costly to restore in exchange for lands of higher quality habitat, lands that connect seasonal GRSG habitats or lands providing for threatened and endangered species. These potential exchanges should lead to an increase in the extent or continuity of or provide for improved connectivity of PPMA. Higher priority will be given to exchanges for those in-tact areas of sagebrush that will contribute to the expansion of PPMA sagebrush areas currently in public ownership. Lower priority will be given to those lands that will promote enhancement the other PPMA and PGMA areas. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-LR-21: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-LR-21: PPMA: No action. PGMA: —. PRMA: —.
A-LR-22: Most LUPs include a management action that allows for acquisition of lands that have important resource values including crucial wildlife habitat and land tenure adjustments to improve the manageability of BLM- and Forest Service-administered lands. In order to be considered for any form of land tenure adjustment, all lands not specifically identified for disposal must	B-LR-22: PPMA: Where suitable conservation actions cannot be achieved in PPMA, seek to acquire state and private lands with intact subsurface mineral estate by donation, purchase or exchange in order to best conserve, enhance or restore GRSG habitat. PGMA: —.	C-LR-22: PPMA: Acquisition will be prioritized over easements.	D-LR-22: PPMA: —. PMMA: Identify lands for acquisition that increase the extent of or provide for connectivity of PPMA. Acquisition of GRSG PPMA will have priority over the acquisition of land for other program purposes subject to the approval of the Authorized officer. PGMA: —.	E-LR-22: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-LR-22: PPMA: —. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
meet criteria included in the LUPs.					
<p>A-LR-23: Most LUPs include a management action that allows for acquisition of lands that have important resource values including crucial wildlife habitat and land tenure adjustments to improve the manageability of BLM- and Forest Service-administered lands.</p> <p>In order to be considered for any form of land tenure adjustment, all lands not specifically identified for disposal must meet criteria included in the LUPs.</p>	<p>B-LR-23: PPMA: Conservation Measure: Identify areas where acquisitions (including subsurface mineral rights) or conservation easements, would benefit GRSG habitat.</p> <p>PGMA: —.</p>	<p>C-LR-23: PPMA: Conservation Measure: Same as Alternative B.</p>	<p>D-LR-23: PPMA: —.</p> <p>PMMA: —.</p> <p>PGMA: —.</p>	<p>E-LR-23: Idaho – Common to All Habitats: —.</p> <p>Utah Habitat: —.</p>	<p>F-LR-23: PPMA: Conservation Measure: Same as Alternative B.</p> <p>PGMA: —.</p> <p>PRMA: —.</p>
Withdrawal					
<p>A-LR-24: —.</p>	<p>B-LR-24: PPMA: Recommend lands within PPMA for mineral withdrawal.</p> <p>PGMA: —.</p>	<p>C-LR-24: PPMA: Same as Alternative B.</p>	<p>D-LR-24: PPMA: —.</p> <p>PMMA: —.</p> <p>PGMA: —.</p>	<p>E-LR-24: Idaho – CHZ: —.</p> <p>Idaho – IHZ: —.</p> <p>Idaho – GHZ: —.</p> <p>Utah Habitat: Do not propose additional federal lands or non-federal lands with federal mineral interests within PPMA for locatable mineral withdrawal. PPMA that is not already withdrawn or recommended for withdrawal would be available for locatable mineral entry. To the extent allowable by laws and regulations and to the extent the claimant would be willing to apply the standards, limit or ameliorate impacts through the use of the general stipulations identified in the GRSG section. Recognize that surface vents associated with underground mining are essential for human safety, and must be permitted under the provisions of this alternative.</p>	<p>F-LR-24: PPMA: Same as Alternative B.</p> <p>PGMA: —.</p> <p>PRMA: —.</p>
<p>A-LR-25: —.</p>	<p>B-LR-25: PPMA: In PPMA, do not recommend withdrawal proposals not associated with mineral activity unless the land management is consistent with GRSG conservation measures (e.g., in a recommended withdrawal for a military</p>	<p>C-LR-25: PPMA: Same as Alternative B.</p>	<p>D-LR-25: PPMA: —.</p> <p>PMMA: —.</p> <p>PGMA: —.</p>	<p>E-LR-25: Idaho – CHZ: —.</p> <p>Idaho – IHZ: —.</p> <p>Idaho – GHZ: —.</p>	<p>F-LR-25: PPMA: Do not approve withdrawal proposals not associated with mineral activity unless the land management is consistent with GRSG conservation measures (e.g., in a recommended withdrawal for a military</p>

Table 2-18
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Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
	training range buffer area, manage the buffer area with GRSG conservation measures). PGMA: —.			Utah Habitat: —.	training range buffer area, manage the buffer area with GRSG conservation measures that have been demonstrated to be effective). PGMA: —. PRMA: —.
Utility Corridors					
A-LR-26: Continue to manage 86,300 acres of utility corridors, including 64,200 acres of West-Wide Energy Corridors.	B-LR-26: PPMA: Same as Alternative A. PGMA: Same as Alternative A.	C-LR-26: PPMA: Same as Alternative A.	D-LR-26: PPMA: Same as Alternative A. PMMA: Same as Alternative A. PGMA: Same as Alternative A.	E-LR-26: Idaho – CHZ: Same as Alternative A. Idaho – IHZ: Same as Alternative A. Idaho – GHZ: Same as Alternative A. Utah Habitat: Same as Alternative A.	F-LR-26: PPMA: Same as Alternative A. PGMA: Same as Alternative A. PRMA: Same as Alternative A.
Fluid Minerals - Leased Federal Fluid Mineral Estate					
A-MLS-1: No similar action for sub-region. Montana BLM: When leases expire, apply oil and gas stipulations listed in Table 5 pg. 44 of Dillon Field Office ROD/RMP also refer to Appendix K and M of the Dillon ROD/RMP.	B-MLS-1: PPMA: Apply the following nine conservation measures through LUP implementation decisions (e.g., approval of an Application for Permit to Drill, Sundry Notice, etc.) and upon completion of the environmental record of review (43 CFR 3162.5), including appropriate documentation of compliance with NEPA. In this process evaluate, among other things: <ul style="list-style-type: none">Whether the conservation measure is “reasonable” (43 CFR 3101.1-2) with the valid existing rights; andWhether the action is in conformance with the approved LUP. PGMA: —.	C-MLS-1: PPMA: Same as Alternative B.	D-MLS-1: PPMA: Use RDFs as COAs for post-leasing actions, such as surface use plan of operations, application for permit to drill, or master development plan. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-MLS-1: Idaho – CHZ: All valid existing rights are protected. In CHZ and IHZ, projects to develop an existing fluid mineral lease (i.e., implementation decisions) would be subject to the following Practices: BMPs: <ul style="list-style-type: none">i. Utilize existing roads, or realignments of existing routes to the extent possible.ii. Construct new roads to minimum design standards needed for production activities.iii. To the extent possible, micro-site linear facilities to reduce impacts on GRSG habitats.iv. Locate staging areas outside the CHZ to the extent possible.v. To the extent possible, co-locate linear facilities within one kilometer of existing linear facilities.vi. New transmission lines, excluding those lines under (viii), will be deemed co-located and/or permissible if construction occurs between July 1 and March 14 (or between July 1 and November 30 in winter concentration	F-MLS-1: PPMA: Apply the following conservation measures as COAs at the project and well permitting stages, and through LUP implementation decisions and upon completion of the environmental record of review (43 CFR § 3162.5), including appropriate documentation of compliance with NEPA. In this process evaluate, among other things: <ul style="list-style-type: none">Whether the conservation measure is “reasonable” (43 CFR § 3101.1-2) with the valid existing rights; andWhether the action is in conformance with the approved LUP. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
				<p>areas) and within one kilometer either side of existing 115-kilovolt (kV) or larger transmission lines to create a corridor no wider than two kilometers.</p> <p>vii. New transmission lines, excluding those lines under (viii), outside of this two kilometer corridor can only be constructed where it can be demonstrated that the activity will not cause declines in GRSG populations or if the activity reduces cumulative impacts and/or avoids other important natural, cultural or societal resources.</p> <p>viii. Locate essential public services, including but not limited to, distribution lines, domestic water lines and gas lines, at least one kilometer from active GRSG leks. If one kilometer avoidance is not possible, construct lines outside of March 15 to June 30.</p> <p>Idaho – IHZ: Same as Idaho – CHZ.</p> <p>Idaho – GHZ: —.</p> <p>Montana Habitat: Same as Alternative A.</p> <p>Utah Habitat: All existing uses are explicitly recognized by this alternative and shall not be affected by the implementation of this alternative. The GRSG conservation measures identified in the associated NEPA documents for each of these projects would continue to be implemented to protect GRSG and its habitat. Provisions of this plan would not be added to the measures identified each specific project.</p>	
A-MLS-2: —. Measures that reduce or eliminate impacts on GRSG are considered on a case-by-case basis during implementation level planning.	B-MLS-2: PPMA: Provide the following conservation measures as terms and conditions of the approved LUP: Do not allow new surface	C-MLS-2: PPMA: Same as Alternative B.	D-MLS-2: PPMA: —. PMMA: —.	E-MLS-2: Idaho – Common to All Habitats: —. Utah Habitat: All existing uses are	F-MLS-2: PPMA: Conservation Measure: Same as Alternative B. PGMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
	<p>occupancy on federal leases within PPMA, this includes winter concentration areas (Doherty et al. 2008, Carpenter et al. 2010) during any time of the year. Consider an exception: If the lease is entirely within PPMA, apply a 4-mile NSO around the lek, and limit permitted disturbances to 1 per section with no more than 3% surface disturbance in that section. If the entire lease is within the 4-mile lek perimeter, limit permitted disturbances to 1 per section with no more than 3% surface disturbance in that section. Require any development to be placed at the most distal part of the lease from the lek, or, depending on topography and other habitat aspects, in an area that is less demonstrably harmful to GRSG.</p> <p>PGMA: —.</p>		<p>PGMA: —.</p>	<p>explicitly recognized by this alternative and shall not be affected by the implementation of this alternative. The GRSG conservation measures identified in the associated NEPA documents for each of these projects would continue to be implemented to protect GRSG and its habitat. Provisions of this plan would not be added to the measures identified each specific project.</p>	<p>PRMA: —.</p>
<p>A-MLS-3: Most LUPs include a management action that prohibits surface disturbing or other disruptive within GRSG breeding and nesting habitat within a certain distance and between certain dates. The protect buffers around leks vary.</p>	<p>B-MLS-3: PPMA: Conservation Measure: Apply a seasonal restriction on exploratory drilling that prohibits surface-disturbing activities during the nesting and early brood-rearing season in PPMA during this period.</p> <p>PGMA: —.</p>	<p>C-MLS-3: PPMA: Timing avoidance periods will be required.</p>	<p>D-MLS-3: PPMA: See D-MLS-1.</p> <p>PMMA: See D-MLS-1.</p> <p>PGMA: See D-MLS-1.</p>	<p>E-MLS-3: Idaho – Common to All Habitats: —.</p> <p>Utah Habitat: Allow exploratory drilling within PPMA, subject to the same seasonal and controlled surface use stipulations as would be applied to leases within PPMA.</p>	<p>F-MLS-3: PPMA: Conservation Measure: Apply a seasonal restriction on exploratory drilling that prohibits surface-disturbing activities during the nesting and brood-rearing season in PPMA during this period. This seasonal restriction shall also to apply to related activities that are disruptive to GRSG, including vehicle traffic and other human presence.</p> <p>PGMA: —.</p> <p>PRMA: —.</p>
<p>A-MLS-4: —.</p>	<p>B-MLS-4: PPMA: Conservation Measure: Complete Master Development Plans in lieu of Application for Permit to Drill (APD)-by-APD processing for all but wildcat wells.</p> <p>PGMA: —.</p>	<p>C-MLS-4: PPMA: Conservation Measure: Same as Alternative B.</p>	<p>D-MLS-4: PPMA: Conservation Measure: For leases where a producing field is proposed to be developed, complete a Master Development Plan in lieu of APD-by-APD processing.</p> <p>PMMA: Same as PPMA.</p> <p>PGMA: Same as PPMA.</p>	<p>E-MLS-4: Idaho – Common to All Habitats: —.</p> <p>Utah Habitat: —.</p>	<p>F-MLS-4: PPMA: Conservation Measure: Same as Alternative B.</p> <p>PGMA: —.</p> <p>PRMA: —.</p>

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
A-MLS-5: —.	B-MLS-5: PPMA: Conservation Measure: When permitting APDs on existing leases that are not yet developed, the proposed surface disturbance cannot exceed 3% for that area. Consider an exception if: Additional, effective mitigation is demonstrated to offset the resulting loss of GRSG (see Objectives, Table 2-19). When necessary, conduct additional, effective mitigation in 1) PPMA or – less preferably – 2) PGMA (dependent upon the area-specific ability to increase GRSG populations). Conduct additional, effective mitigation first within the same population area where the impact is realized, and if not possible then conduct mitigation within the same Management Zone as the impact, per Stiver et al. (2006), pg. 2-17. PGMA: —.	C-MLS-5: PPMA: Conservation Measure: Same as Alternative B.	D-MLS-5: PPMA: Conservation Measure: When approving a Master Development Plan on a lease, if on-site mitigation is inadequate to restore habitat, consider off-site mitigation to improve habitat, in accordance with Stiver et al. (2006), pg. 2-17, and current BLM and/or Forest Service policy regarding offsite mitigation. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-MLS-5: Idaho – Common to All Habitats: —. Utah Habitat: All existing uses are explicitly recognized by this alternative and shall not be affected by the implementation of this alternative. The GRSG conservation measures identified in the associated NEPA documents for each of these projects would continue to be implemented to protect GRSG and its habitat. Provisions of this plan would not be added to the measures identified each specific project.	F-MLS-5: PPMA: Same as Alternative B. PGMA: —. PRMA: —.
A-MLS-6: —. Current policy allows unitization to occur on a case-by-case basis.	B-MLS-6: PPMA: Conservation Measure: Require unitization when deemed necessary for proper development and operation of an area (with strong oversight and monitoring) to minimize adverse impacts on GRSG according to the Federal Lease Form, 3100-11, Sections 4 and 6. PGMA: —.	C-MLS-6: PPMA: Conservation Measure: Same as Alternative B.	D-MLS-6: PPMA: Conservation Measure: Require unitization when deemed necessary for proper development and operation of an area (with strong oversight and monitoring). The unitization must be designed in a manner to minimize adverse impacts on GRSG according to the Federal Lease Form, 3100-11, Sections 4 and 6. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-MLS-6: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-MLS-6: PPMA: Conservation Measure: Same as Alternative B. PGMA: —. PRMA: —.
A-MLS-7: —. Reclamation bonds are currently required under 43 CFR 3104 for all fluid mineral leases.	B-MLS-7: PPMA: Conservation Measure: For future actions, require a full reclamation bond specific to the site in accordance with 43 CFR 3104.2, 3104.3, and 3104.5. Insure bonds are sufficient for costs relative to reclamation (Connelly et al. 2000, Hagen et al. 2007) that would result in full	C-MLS-7: PPMA: Conservation Measure: Same as Alternative B.	D-MLS-7: PPMA: Conservation Measure: If surface disturbing activities are proposed on a future lease, require a full reclamation bond specific to the site. Ensure reclamation bonds are sufficient to cover costs that would result in full rehabilitation. Base the reclamation costs on the assumption	E-MLS-7: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-MLS-7: PPMA: Conservation Measure: Same as Alternative B. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
	restoration of the lands to the condition it was found prior to disturbance. Base the reclamation costs on the assumption that contractors for the BLM or Forest Service will perform the work. PGMA: —.		that contractors for the BLM will perform the work. PMMA: Same as PPMA. PGMA: Same as PPMA.		
A-MLS-8: —. Individual land use plans may contain an appendix that outlines BMPs that are applied on a case-by-case basis.	B-MLS-8: PPMA: Conservation Measure: Make applicable BMPs (Appendix C) mandatory as COAs within PPMA. PGMA: —.	C-MLS-8: PPMA: Conservation Measure: Same as Alternative B.	D-MLS-8: PPMA: Conservation Measure: When an APD is submitted for approval on a lease, make applicable BMPs (Appendix C) mandatory as COAs. PMMA: Same as PPMA. PGMA: Conservation Measure: When an APD is submitted for approval on a lease, consider making applicable BMPs mandatory as COAs.	E-MLS-8: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-MLS-8: PPMA: Conservation Measure: Same as Alternative B. PGMA: —. PRMA: —.
A-MLS-9: —.	B-MLS-9: PPMA: —. PGMA: —.	C-MLS-9: PPMA: Include conditions that require relinquishment of leases/authorizations if doing so will: 1) mitigate the impact of a proposed development, or 2) mitigate the unanticipated impacts of an approved development.	D-MLS-9: PPMA: —. PMMA: —. PGMA: —.	E-MLS-9: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-MLS-9: PPMA: —. PGMA: —. PRMA: —.
A-MLS-10: —.	B-MLS-10: PPMA: —. PGMA: —.	C-MLS-10: PPMA: No waivers will be issued.	D-MLS-10: PPMA: —. PMMA: —. PGMA: —.	E-MLS-10: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-MLS-10: PPMA: —. PGMA: —. PRMA: —.
A-MLS-11: —.	B-MLS-11: PPMA: —. PGMA: —.	C-MLS-11: PPMA: Any oil, gas, geothermal activity will be conducted to maximize avoidance of impacts, based on evolving scientific knowledge of impacts.	D-MLS-11: PPMA: —. PMMA: —. PGMA: —.	E-MLS-11: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-MLS-11: PPMA: —. PGMA: —. PRMA: —.
Unleased Federal Fluid Mineral Estate					
A-MLS-12: Fluid mineral leasing in GRSG habitat will be managed as shown in Table 2-2. Additional stipulations, such as CSU, TL, or NSO, may be attached to a lease if the standard lease stipulations do not	B-MLS-12: PPMA: Close PPMA to fluid mineral leasing (see Table 2-2). Upon expiration or termination of existing leases, do not accept nominations/expressions of interest for parcels within PPMA.	C-MLS-12: PPMA: No new leases or permits will be issued (see Table 2-2).	D-MLS-12: PPMA: Areas of no and low potential for the discovery of fluid minerals are closed to leasing (see Table 2-2). Areas of moderate and high potential for the discovery of fluid minerals are	E-MLS-12: Idaho – CHZ: Fluid mineral leases in CHZ and IHZ shall be subject to a No Surface Occupancy stipulation. The BLM State Director may waive the stipulation only in situations where the development will not accelerate and/or cause declines in	F-MLS-12: PPMA: Upon expiration or termination of existing leases, do not accept nominations/expressions of interest for parcels within PPMA (see Table 2-2). PGMA: Same as Alternative A.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<p>adequately protect a sensitive resource. If a resource cannot be adequately protected through the use of stipulations, the BLM may close that area to leasing. The Forest Service may choose not to consent to leasing on the lands it administers.</p> <p>Most LUPs include a management action that prohibits surface disturbing or other disruptive within GRSG breeding and nesting habitat within a certain distance and between certain dates. The protect buffers around leks vary.</p> <p>Montana BLM: Current oil and gas stipulations listed in Table 5 pg. 44 of Dillon Field Office ROD/RMP. Conservation actions also in Appendix X of Dillon ROD/RMP.</p>	<p>PGMA: Same as Alternative A.</p>		<p>open to leasing subject to CSU, timing restrictions in breeding and winter habitat, disturbance density not to exceed 1/640 acres, maximum 3% disturbance/section, NSO within 0.6 mile of occupied or undetermined status leks. Consider use of low profile structures/facilities.</p> <p>PMMA: Same as PPMA.</p> <p>PGMA: PGMA is open to leasing subject to timing limitations in breeding and winter habitat, 0.6 mile NSO near occupied and undetermined status leks, and implementation of appropriate BMPs.</p>	<p>GRSG populations within the relevant CA, based on the application of the following criteria:-</p> <p>a. The development cannot be reasonably accomplished outside of the management zone.</p> <p>b. Demonstrates the population trend for the species within the relevant Conservation Area is stable or increasing over a three3-year period.</p> <p>c. Demonstrates the individual or cumulative exceptions under this provision will not result in habitat fragmentation or other impacts causing a decline of the species within the relevant Conservation Area.</p> <p>d. Can be co-located with existing infrastructure to the maximum extent practicable.</p> <p>e. Shall mitigate unavoidable impacts through an appropriate compensatory mitigation plan.</p> <p>f. If the NSO stipulation is waived, any proposed development would be subject to the following BMPs:</p> <ol style="list-style-type: none">1. Evaluate the affected area in accordance with the process outlined in the State of Wyoming’s Executive Order 2011-5.2. In CHZ, surface disturbance will be limited to three percent of suitable habitat per an average of 640 acres. Development within the IHZ will be limited to five percent of suitable habitat per an average of 640 acres.3. No surface occupancy (“NSO”) within one kilometer of the perimeter of occupied GRSG leks. This distance may be modified, provided it is supported by the best available science at the time the	<p>PRMA: Same as Alternative A.</p>

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
				<p>development undergoes site-specific environmental analysis.</p> <p>4. Activity (production and maintenance activity exempted) will be allowed from July 1 to March 14 outside of the one kilometer perimeter of a lek where brood-rearing, nesting, and early brood-rearing habitat is present.</p> <p>5. In areas solely used as winter concentration areas, exploration and development activity will be allowed March 14 to December 1.</p> <p>6. Locate main roads used to transport production and/or waste products >1.5 kilometers from the perimeter of occupied GRSG leks. Locate other roads used to provide facility site access and maintenance >1.5 kilometers from the perimeter of occupied GRSG leks. Construct roads to minimum design standards needed for production activities.</p> <p>7. New noise levels, at the perimeter of a lek, should not exceed 10dBA above ambient noise (existing activity included) from 6:00 PM to 8:00 AM during the initiation of breeding (March 1-May 15). Ambient noise level should be determined by measurements taken at the perimeter of a lek at sunrise.</p> <p>8. Absent some demonstration to the contrary, the proposed sagebrush treatment associated with this activity will not reduce canopy cover to less than 15 percent.</p>	

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
				<p>Idaho – IHZ: Same as Idaho – CHZ.</p> <p>Idaho – GHZ: —.</p> <p>Montana Habitat: Same as Alternative A.</p> <p>Utah Habitat: Unleased Areas within PPMA: PPMA would be designated as open to oil and gas leasing subject to controlled surface use stipulations (see list below) and the timing stipulations (see Table 2-2). Avoid activities (construction, vehicle noise, etc.) in the following seasons and habitats (specific time and distance determinations for seasonal stipulations would be based on site-specific conditions, in coordination with the local UDWR biologist):</p> <ul style="list-style-type: none">• Winter habitat from Nov 15 – Mar 15• Nesting and brood-rearing areas from Apr 1 – Aug 15• On leks from Feb 15 – May 15 <p>Where leasing/development is allowed within PPMA, Within PPMA, limit or ameliorate impacts from development through the use of the general stipulations identified in the GRSG section.</p>	
<p>A-MLS-13: Allow geophysical exploration in areas that are not closed to fluid mineral leasing.</p>	<p>B-MLS-13: PPMA: Allow geophysical exploration within PPMA to obtain exploratory information for areas outside of and adjacent to PPMA. Allow geophysical operations only by helicopter-portable drilling methods and in accordance with seasonal timing restrictions and/or other restrictions that may apply.</p> <p>PGMA: —.</p>	<p>C-MLS-13: PPMA: Same as Alternative B.</p>	<p>D-MLS-13: PPMA: Allow geophysical exploration subject to seasonal timing restrictions.</p> <p>PMMA: Same as PPMA.</p> <p>PGMA: Same as PPMA.</p>	<p>E-MLS-13: Idaho – Common to All Habitats: —.</p> <p>Utah Habitat: Allow geophysical exploration within PPMA to obtain exploratory information. Geophysical exploration would be subject to the same seasonal and controlled surface use stipulations as would be applied to leases within PPMA.</p>	<p>F-MLS-13: PPMA: Allow geophysical exploration within PPMA to obtain exploratory information for areas outside of and adjacent to PPMA. Only allow geophysical operations by helicopter-portable drilling methods and in accordance with seasonal timing restrictions and/or other restrictions that may apply. Geophysical exploration shall be subject to seasonal restrictions that preclude activities in breeding, nesting, brood rearing and winter habitats during their season of use by GRSG.</p>

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
					PGMA: —. PRMA: —.
A-MLS-14: —.	B-MLS-14: PPMA: —. PGMA: —.	C-MLS-14: PPMA: —.	D-MLS-14: PPMA: When a surface disturbing activity is proposed on a future fluid mineral lease, include in the NEPA analysis an alternative that sites the activity at the most distal part of the lease from any lek, or in an area that is less harmful to GRSG habitat. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-MLS-14: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-MLS-14: PPMA: —. PGMA: —. PRMA: —.
Locatable Minerals					
A-MLM-1: Locatable minerals would be managed as shown in Table 2-2. Procedures and standards are established to ensure that operators and mining claimants meet their obligation to prevent undue or unnecessary degradation and to reclaim disturbed areas. The existing land use plans identify areas that are closed to mineral entry but are silent on mitigation measures to be taken in GRSG habitat. Montana BLM: 2,520 acres of PPH recommended for withdrawal, 320 acres of PGH recommended for withdrawal.	B-MLM-1: PPMA: Recommend withdrawal from mineral entry based on risk to the GRSG and its habitat from conflicting locatable mineral potential and development (see Table 2-2). Make any existing claims within the withdrawal area subject to validity exams or buy out. Include claims that have been subsequently determined to be null and void in the recommended withdrawal. In plans of operations required prior to any proposed surface disturbing activities, include the following: Additional, effective mitigation in perpetuity for conservation (In accordance with existing policy, WO IM 2008-204). Example: purchase private land and mineral rights or severed subsurface mineral rights within PPMA and deed to US Government). Consider seasonal restrictions if deemed effective. PGMA: Same as Alternative A.	C-MLM-1: PPMA: Same as Alternative B (see Table 2-2).	D-MLM-1: PPMA: Lands would remain open to locatable mineral entry (see Table 2-2). PMMA: Same as PPMA. PGMA: Same as PPMA.	E-MLM-1: Idaho – Common to All Habitats: Same as Alternative A (see Table 2-2). Montana Habitat: Same as Alternative A. Utah Habitat: Same as Alternative A.	F-MLM-1: PPMA: Same as Alternative B (see Table 2-2). PGMA: Same as Alternative A. PRMA: Same as Alternative A.
A-MLM-2: The existing land use plans do not identify mitigation measures to be taken in GRSG habitat.	B-MLM-2: PPMA: Make applicable BMPs (see Appendix C) mandatory as COAs within PPMA.	C-MLM-2: PPMA: Same as Alternative B.	D-MLM-2: PPMA: —. PMMA: —.	E-MLM-2: Idaho – Common to All Habitats: —.	F-MLM-2: PPMA: Same as Alternative B. PGMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
	PGMA: —.		PGMA: —.	Utah Habitat: —.	PRMA: —.
A-MLM-3: The existing land use plans do not identify mitigation measures to be taken in GRSG habitat.	B-MLM-3: PPMA: —. PGMA: —.	C-MLM-3: PPMA: —.	D-MLM-3: PPMA: Ensure compliance with regulations in 43 CFR 3809 and 36 CFR 228 to prevent unnecessary and undue degradation (from WO IM 2012-044). PMMA: Same as PPMA. PGMA: Same as PPMA.	E-MLM-3: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-MLM-3: PPMA: No action. PGMA: —. PRMA: —.
Salable Minerals					
A-MSM-1: Salable minerals in GRSG habitat will be managed as shown in Table 2-2. Most BLM- and Forest Service-administered land in Idaho is available for consideration of mineral material disposal, however existing guidance in many of the LUPs in the planning area encourages the use of existing disposal sites until the material is depleted. Montana BLM: See Appendix N, SOP of Dillon ROD/RMP for Mineral material sites on pg. 169 of ROD/RMP. 30,300 acres of PPH are closed to mineral material disposal; 22,600 acres of PGH are closed to mineral material disposal.	B-MSM-1: PPMA: Close PPMA to mineral material sales (see Table 2-2). PGMA: Same as Alternative A.	C-MSM-1: PPMA: Same as Alternative B (see Table 2-2).	D-MSM-1: PPMA: No new authorizations would be approved within 3 km of an occupied lek (see Table 2-2). Newly authorized disposals would be subject to seasonal timing restrictions and BMPs, as appropriate. Sales from existing community pits within PPMA would be subject to seasonal timing restrictions. PMMA: Same as PPMA. PGMA: No new authorizations would be approved within 3 km of an occupied lek. Disposals would be subject to seasonal timing restrictions, as appropriate.	E-MSM-1: Idaho – Common to All Habitats: Same as Alternative A (see Table 2-2). Montana Habitat: Same as Alternative A. Utah Habitat: PPMA would be open to mineral materials (see Table 2-2). Limit or ameliorate impacts through the use of the general stipulations identified in the GRSG section.	F-MSM-1: PPMA: Same as Alternative B (see Table 2-2). PGMA: Same as Alternative A. PRMA: Same as Alternative A.
A-MSM-2: —.	B-MSM-2: PPMA: Restore salable mineral pits no longer in use to meet GRSG habitat conservation objectives. PGMA: —.	C-MSM-2: PPMA: Same as Alternative B.	D-MSM-2: PPMA: Restore salable mineral pits no longer in use to meet GRSG habitat conservation objectives. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-MSM-2: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-MSM-2: PPMA: Same as Alternative B. PGMA: —. PRMA: —.
A-MSM-3: —.	B-MSM-3: PPMA: —. PGMA: —.	C-MSM-3: PPMA: —.	D-MSM-3: PPMA: Reclamation bonding will be required on new authorizations for mineral material sales in PPMA (this would not apply to free use permits issued to a government entity such as a county road district, but would apply to non-profit entities).	E-MSM-3: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-MSM-3: PPMA: —. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
			PMMA: Same as PPMA. PGMA: Same as PPMA.		
Non-Energy Leasable Minerals					
<p>A-MNL-1: Manage non-energy leasable minerals on federal lands and non-federal lands with federal mineral interests within GRSG habitat as shown in Table 2-2.</p> <p>Montana BLM: All BLM-administered lands in Dillon Field Office are available for development of leasable solid minerals except 124,200 acres of Bear Trap Wilderness and 9 WSA's (see ROD/RMP pg. 44).</p>	<p>B-MNL-1: PPMA: Close PPMA to non-energy leasable mineral leasing (see Table 2-2). This includes not permitting any new leases to expand an existing mine.</p> <p>PGMA: Same as Alternative A.</p>	<p>C-MNL-1: PPMA: Same as Alternative B (see Table 2-2).</p>	<p>D-MNL-1: PPMA: Future leasing and prospecting of non-energy minerals in PPMA is closed (see Table 2-2). Exceptions may be made for lease modifications and fringe leases where valid existing rights may be affected. Consider offsite mitigation, CSU and timing restrictions, as appropriate.</p> <p>PMMA: Same as PPMA.</p> <p>PGMA: Lands are available for leasing subject to applicable timing restrictions (seasonal and daily) for exploration activities and initial mine development, subject to mandatory lease stipulations, timing restrictions and CSU. Consider offsite mitigation opportunities.</p>	<p>E-MNL-1: Idaho – Common to All Habitats: Same as Alternative A (see Table 2-2).</p> <p>Montana Habitat: Same as Alternative A.</p> <p>Utah Habitat: Manage non-energy leasable minerals on federal lands and non-federal lands with federal mineral interests within GRSG habitat as shown in Table 2-2.</p> <p>Consider leasing federal lands and non-federal lands with federal mineral interests within PPMA for non-energy leasable minerals. Limit or ameliorate impacts from mineral leasing and development through the use of the general stipulations identified in the GRSG section. Recognize that surface vents associated with underground mining are essential for human safety, and must be permitted under the provisions of this alternative.</p> <p>Commercial prospecting activities associated with non-energy leasable minerals would be required to comply with the same stipulations identified for leasing and development, above.</p>	<p>F-MNL-1: PPMA: Same as Alternative B (see Table 2-2).</p> <p>PGMA: Same as Alternative A.</p> <p>PRMA: Same as Alternative A.</p>
<p>A-MNL-2: Individual land use plans may contain an appendix that outlines BMPs that are applied on a case-by-case basis.</p> <p>The 2011 Pocatello RMP establishes operational standards and guidelines for reclamation plans; identifies interagency</p>	<p>B-MNL-2: PPMA: For existing non-energy leasable mineral leases in PPMA, in addition to the solid minerals BMPs (Appendix C), follow the same BMPs applied to Fluid Minerals (Appendix C), when wells are used for solution mining.</p>	<p>C-MNL-2: PPMA: Same as Alternative B.</p>	<p>D-MNL-2: PPMA: For existing undeveloped non-energy mineral leases, require timing restrictions (seasonal and daily) when exploration activities or initial mine development is proposed, as appropriate. Also require appropriate BMPs (Appendix C) as COAs to the mine plan, and require restoration of</p>	<p>E-MNL-2: Idaho – Common to All Habitats: —.</p> <p>Utah Habitat: —.</p>	<p>F-MNL-2: PPMA: Same as Alternative B.</p> <p>PGMA: —.</p> <p>PRMA: —.</p>

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
standards for contaminant levels in vegetation, surface, and groundwater; and implements best management practices to control sedimentation and contaminant release.	PGMA: —.		habitat or off-site mitigation, if on-site restoration is not feasible. PMMA: Same as PPMA. PGMA: Same as PPMA.		
Mineral Split Estate					
A-MSE–1: Under current management, there is no designated GRSG habitat. Decisions included in current management plans apply to both federal surface and mineral estate.	B-MSE–1: PPMA: Where the federal government owns the mineral estate in PPMA, and the surface is in non-federal ownership, apply the conservation measures applied on BLM- and Forest Service-administered lands. PGMA: —.	C-MSE–1: PPMA: Same as Alternative B.	D-MSE–1: PPMA: Where the federal government owns the mineral estate in PPMA and the surface is in non-federal ownership, apply stipulations, conservation measures, and design features consistent with those applied to BLM- and Forest Service-administered lands in PPMA in the area. PMMA: Same as PPMA. PGMA: Same as PPMA.	E-MSE–1: Idaho – Common to All Habitats: —. Utah Habitat: Because the surface estate is the key to conservation of habitat, the GRSG habitat has been mapped according to surface ownership. However, implementation of his alternative will have to accommodate the dominant nature of the mineral estate, and react accordingly.	F-MSE–1: PPMA: Same as Alternative B. PGMA: —. PRMA: —.
A-MSE–2: —. Under current management, there is no designated GRSG habitat. Decisions included in current management plans apply to both federal surface and mineral estate. Individual land use plans may contain an appendix that outlines BMPs that are applied on a case-by-case basis.	B-MSE–2: PPMA: Where the federal government owns the surface, and the mineral estate is in non-federal ownership in PPMA, apply appropriate Fluid Mineral RDFs (Appendix C) to surface development. PGMA: —.	C-MSE–2: PPMA: Same as Alternative B.	D-MSE–2: PPMA: Where the federal government owns the surface, and the mineral estate is in non-federal ownership in PPMA, recommend to the state regulatory entity to apply a timing restriction stipulation, COAs, and restrict activities within 3 km (1.86 miles) of an occupied lek, when concurring to the approval of authorizations for mineral-related surface disturbance on lands in PPMA. PMMA: Where the federal government owns the surface, and the mineral estate is in non-federal ownership in PMMA, recommend to the state regulatory agency to apply a timing restriction stipulation and restrict activities within 3 km (1.86 miles) of an occupied lek, when concurring to the approval of authorizations for mineral-related surface disturbance on lands in PMMA. PGMA: Recommend to the state regulatory agency to apply a timing	E-MSE–2: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-MSE–2: PPMA: Same as Alternative B. PGMA: —. PRMA: —.

Table 2-18
Management Actions by Alternative

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
			restriction stipulation and restrict activities within 3 km (1.86 miles) of an occupied lek, when concurring to the approval of authorizations for mineral-related surface disturbance on lands in PGMA.		
ACECs					
A-SD-1: No existing ACECs include GRSG as a relevant and important value. The acres of existing ACECs are shown in Table 2-2 . Montana BLM: No existing ACECs include GRSG as a relevant and important value. Maintain designation of existing ACECs, including 35,361 acres overlapping PPH and 1,476 acres overlapping PGH.	B-SD-1: PPMA: Same as Alternative A (see Table 2-2). PGMA: Same as Alternative A.	C-SD-1: PPMA: Designate and manage ACECs (BLM) and GRSG Zoological Areas (Forest Service) to function as sagebrush reserves to conserve GRSG (see Table 2-2).	D-SD-1: PPMA: Same as Alternative A (see Table 2-2). PMMA: Same as Alternative A. PGMA: Same as Alternative A.	E-SD-1: Idaho – Common to All Habitats: Same as Alternative A (see Table 2-2). Montana Habitat: Same as Alternative A. Utah Habitat: Same as Alternative A.	F-SD-1: PPMA Designate and manage ACECs (BLM) and GRSG Zoological Areas (Forest Service) to function as sagebrush reserves to conserve GRSG (see Table 2-2).
A-SD-2: —.	B-SD-2: PPMA: —. PGMA: —.	C-SD-2: PPMA: Industrial solar projects will be prohibited in ACECs and occupied habitats.	D-SD-2: PPMA: —. PMMA: —. PGMA: —.	E-SD-2: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-SD-2: PPMA: —. PGMA: —. PRMA: —.
A-SD-3: —.	B-SD-3: PPMA: —. PGMA: —.	C-SD-3: PPMA: New transmission corridors, ROWs for corridors (oil, gas, water/aquifer mining), and communication or other towers are prohibited in ACECs and occupied habitats.	D-SD-3: PPMA: —. PMMA: —. PGMA: —.	E-SD-3: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-SD-3: PPMA: —. PGMA: —. PRMA: —.
A-SD-4: —.	B-SD-4: PPMA: —. PGMA: —.	C-SD-4: PPMA: BLM and Forest Service will strive to acquire important private lands in BLM-designated ACECs and Forest Service Sage-Grouse Special Areas.	D-SD-4: PPMA: —. PMMA: —. PGMA: —.	E-SD-4: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-SD-4: PPMA: —. PGMA: —. PRMA: —.
A-SD-5: —.	B-SD-5: PPMA: —. PGMA: —.	C-SD-5: PPMA: Existing designated corridors in BLM ACECs and Forest Service Special Areas may be accessed for maintenance.	D-SD-5: PPMA: —. PMMA: —. PGMA: —.	E-SD-5: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-SD-5: PPMA: —. PGMA: —. PRMA: —.
A-SD-6: —.	B-SD-6: PPMA: —. PGMA: —.	C-SD-6: PPMA: Agencies will explore options to amend, cancel, or buy out leases in ACECs and occupied habitats.	D-SD-6: PPMA: —. PMMA: —. PGMA: —.	E-SD-6: Idaho – Common to All Habitats: —. Utah Habitat: —.	F-SD-6: PPMA: —. PGMA: —. PRMA: —.

2.7 Summary of Environmental Consequences

Table 2-19, Summary of Environmental Consequences, describes the anticipated impacts of each alternative on resource management. See Chapter 4 for a detailed discussion of the environmental consequences from each alternative.

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Table 2-19
Summary of Environmental Consequences

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Vegetation (Including Noxious Weeds; Riparian and Wetlands)					
<p>In general, Alternative A would rely on management guidance that would not reflect the most up-to-date science regarding GRSG, and older land use plans would be implemented that often would lack a landscape-level approach to land planning. However, several LUPs do contain guidance for specific areas that address GRSG (e.g., Dillon, Pocatello, and Beaverhead-Deerlodge).</p> <p>There is no consistently applied vegetation management across all land use plans, though many incorporate objectives for maintaining, improving, or restoring vegetation communities, particularly sagebrush and riparian and wetland habitats. As a result, there is general direction to preserve and improve vegetation communities; however, discrete anthropogenic disturbances to vegetation, such as road construction, mineral development, and development of ROWs, would continue.</p>	<p>The BLM and Forest Service would manage lands to conserve, enhance, and restore sagebrush ecosystems. Direct protection of sagebrush habitat to support GRSG would limit or modify uses in this habitat type, improving the acreage and condition of desired vegetation communities. Use restrictions would reduce damage to native vegetation communities and individual native plant species in areas that are important for regional vegetation diversity and quality. Likewise, use restrictions would minimize loss of connectivity and would be more likely to retain existing age class distribution within these specific areas. Use restrictions could also minimize the spread of invasive species by limiting human activities that cause soil disturbance or seed introductions.</p> <p>PPMA and PGMA would be designated and the BLM and Forest Service would apply a three percent anthropogenic disturbance cap on discrete activities in PPMA and would implement numerous conservation measures to reduce impacts from human activities, which would reduce the likelihood for vegetation removal, degradation, or fragmentation, and maintain the acreage and condition of sagebrush vegetation.</p>	<p>The BLM and Forest Service would manage lands to conserve, enhance, and restore sagebrush ecosystems. Management actions would be applied to all occupied GRSG habitats, a larger area than covered by Alternative B. Management would focus on removing livestock grazing from occupied habitats, with most other management similar to Alternative B.</p>	<p>The BLM and Forest Service would manage lands to conserve, enhance and restore sagebrush ecosystems. Management and impacts would be similar to Alternative B, though Alternative D would incorporate more flexibility and adaptive management to account for sub-regional conditions. PPMA, PMMA, and PGMA would be designated and the BLM and Forest Service would require a no net unmitigated loss of PPMA and PMMA and would implement conservation measures to reduce impacts from human activities in PPMA, which would reduce the likelihood for vegetation removal, degradation, or fragmentation.</p>	<p>The BLM and Forest Service would manage lands to protect, maintain, improve and enhance sagebrush ecosystems. CHZ, IHZ and GHZ would be designated. CHZ would restrict further infrastructure development with narrow exceptions to permit high value infrastructure. This alternative would designate fewer acres of CHZ as compared to Alternatives B, C, D & F designations of PPMA, resulting in fewer acres of sagebrush vegetation preserved from removal, degradation, or fragmentation.</p>	<p>Management under Alternative F would be largely similar to that described for Alternative B, though with more stringent guidance and restrictive management in sagebrush ecosystems. PPMA and PGMA would be the same as for Alternative B.</p> <p>Under Alternative F, PRMA would also be designated. Impacts from implementing the three percent disturbance cap would be similar to those described for Alternative B, but under Alternative F all surface disturbances would count towards the disturbance cap. This would further reduce the acreage of vegetation that would be removed or fragmented within all occupied habitat over the long term.</p>
Wildland Fire Ecology and Management					
<p>Current impacts would continue and there would continue to be a high risk of human-caused ignitions associated with human uses.</p>	<p>Long-term frequency and intensity of wildland fire, would be similar to historic conditions because post fuel and restoration management would be designed to ensure long-term persistence of seeded or pre-</p>	<p>Under Alternative C, no livestock grazing would be permitted within occupied GRSG habitat. As a result, fine fuels would increase throughout occupied habitat and size, intensity, and occurrence of fire would</p>	<p>Alternative D contains a defined set of tools for wildland fire management. Alternative D would allow for management flexibility in designing fuels treatments and</p>	<p>Developing a fuels break strategy, response time analysis and water availability analysis would help focus suppression activities in areas with the greatest likelihood of reducing wildfire spread.</p>	<p>Impacts from fire management would be the same as those described under Alternative B.</p>

Table 2-19
Summary of Environmental Consequences

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<p>Vegetation management and weed treatments would continue to decrease fuels across the planning area, which would decrease the intensity of wildland fires and allow fires to be more easily controlled. Similarly, treatments for habitat improvement and forage would reduce fuels and reduce the likelihood for stand-replacing fire.</p> <p>The wildland fire management program would continue to be impacted by the spread of invasive annuals, which results in a longer fire season and the need for more resources to respond to wildfire. There would also be a continued decrease in the capability of the proactive hazardous fuels reduction program to maintain reactive suppression and rehabilitation efforts in the wildland-urban interface (WUI).</p>	<p>burn native plants.</p> <p>GRSG management in PPMA would focus on fire suppression and limitations on fuels treatments, resulting in higher level of protection from wildland fire, but reduced wildland fire and fuels management options.</p> <p>Managing PPMA so that discrete anthropogenic disturbances cover less than 3 percent of the total PPMA regardless of ownership would decrease the chance of human-caused ignition in PPMA. In addition, managing or restoring PPMA so that at least 70 percent of the land cover provides adequate sagebrush habitat to meet GRSG needs would promote a shift towards historic fire regimes in sagebrush ecosystems.</p> <p>Limiting motorized travel in PPMA to existing roads and trails until travel management planning is complete, as well as limiting road upgrades or new roads in this area, would reduce the risk of human-caused ignition in PPMA on BLM-administered and Forest Service-administered lands.</p>	<p>potentially increase. However, because the prohibition on grazing could reduce weed spread, some areas may experience a shorter fire season and less frequent and/or intense wildfires.</p>	<p>response to wildland fire.</p> <p>Strategic wildfire suppression planning would help return PPMA to natural fire intensities and intervals.</p> <p>Impacts from limiting motorized travel to existing roads would be the same as those described for Alternative B.</p>	<p>Use of native vegetation for restoration and controlling invasive species for three years after wildfire treatments would reduce the likelihood for weed invasion in burned or treated areas, thus reducing the frequency and intensity of wildland fires.</p> <p>This alternative promotes active and aggressive control of invasive species, which would likely result in a reduced likelihood of large-scale wildland fires.</p> <p>Targeted grazing would be allowed to reduce fine fuels, resulting less need for mechanical or chemical fuels treatments.</p>	
Wilderness Characteristics					
<p>Management actions to protect other resources and special designation areas offer some protection of wilderness characteristics. Alternative A includes the fewest GRSG protections and is least restrictive of surface-disturbing activities that have the potential to alter the natural setting, as well as reduce opportunities for solitude or primitive recreation,</p>	<p>Under Alternative B, restrictions on resource uses, such as ROW exclusion and closure to mineral exploration and development, would offer more protection of lands with wilderness characteristics compared to Alternative A.</p>	<p>Impacts from Alternative C would be similar those described for Alternative B, but would be applied across a larger geographic area. As such, Alternative C would provide greater protection from surface-disturbing activities on lands with wilderness characteristics.</p> <p>In addition, livestock grazing would be prohibited in PPMA (i.e., all occupied habitat). This would eliminate the need for livestock</p>	<p>Under Alternative D, the BLM and Forest Service would apply restrictions on resource uses similar to, though less than, Alternative B. Restrictions would include ROW avoidance areas and stipulations on mineral leasing. Such restrictions would provide more protection to lands with wilderness characteristics compared to Alternative A.</p>	<p>Under Alternative E, impacts from restrictions on resource uses would be similar to Alternative B, though restrictions would apply to a smaller area of lands with wilderness characteristics.</p>	<p>Impacts would be the same as those described for Alternative B.</p>

Table 2-19
Summary of Environmental Consequences

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
of lands with wilderness characteristics. Therefore, degradation of wilderness characteristics is most likely under this alternative.		developments (e.g., fences, cattle guards, guzzlers, stock ponds, and access roads) and would enhance wilderness characteristics.			
Livestock Grazing/Range Management					
<p>In general, Alternative A would be the least restrictive on livestock grazing.</p> <p>Under Alternative A, livestock grazing would continue to be managed under current guidance, with AUMs and acres open to grazing remaining at current levels. Grazing allotments would continue to be subject to permit renewals and assessments of rangeland health.</p>	<p>Acres open to grazing and permitted AUMs would be the same as for Alternative A.</p> <p>PPMA would be managed so that at least 70 percent of the land cover provides adequate sagebrush habitat to meet GRSG needs. Where cover requirements do not meet forage objectives for livestock grazing, this would result in the need to modify grazing practices with increased costs for permittees.</p> <p>Consideration of GRSG habitat objectives and management would be required in grazing management in PPMA and incorporated into grazing allotments through BLM AMPs or permit renewals or BLM and Forest Service NEPA processes. As a result, impacts would occur over time at a site-specific level as measures are incorporated into individual allotments.</p> <p>Land Health assessment and permit renewals would be prioritized in PPMA, but there is potential for further degradation of lands outside of PPMA that are not meeting land health standards or desired conditions.</p>	<p>Under Alternative C, grazing would be eliminated from all allotments completely or partially within occupied habitat. Closures would impact permittees' current seasonal rotations or other management strategies that utilize both federal and private lands. The elimination of permitted grazing in PPMA under Alternative C may result in permittees' going out of business, with impacts on both individual permittees as well as local communities as a whole. Additional details of the economic impacts are discussed in Section 4.14, Social and Economic Conditions.</p> <p>Beneficial or adverse impacts on range management from other resource uses (e.g., ROW or fluid mineral development) would be diminished in scale and intensity because of the elimination of grazing in all allotments intersecting occupied habitat.</p>	<p>Acres open to grazing and permitted AUMs would be the same as for Alternative A. Impacts from management actions would be similar to those described under Alternative B.</p> <p>A moderate decline in permitted grazing would be anticipated over time as grazing permits are modified to incorporate GRSG objectives at renewal or allotment analysis. Coordination with the state should decrease conflicts in standards and provide a location appropriate framework, assisting permittees' ability to adopt these standards and reducing impacts.</p> <p>Reconnection and expansion of native plant communities would be an objective across all GRSG habitat types and restoration of seasonal habitats would be emphasized in both priority and medial habitats. Should treatments in this habitat not match with vegetation objectives for livestock grazing, forage quality would decrease. However, in most cases, treatment (e.g., conifer removal) would improve forage conditions in the long term.</p>	<p>Under Alternative E, allotment renewal in CHZ and IHZ would be prioritized where populations are declining.</p> <p>Alternative E would allow for greater flexibility in management options, limiting impacts on range management.</p> <p>Changes could be required to grazing timing and intensity to meet GRSG habitat requirements, with the potential for some increased time and costs to permittees as compared to Alternative A. However, due to the increased flexibility in management actions under this alternative, permittees would have more options to address GRSG habitat requirements, and impacts on range management would be limited.</p>	<p>In areas where grazing is permitted, management would be similar to that described in Alternative B but increased in intensity due to increased restrictions on prohibitions to grazing after fire and the prohibition on all new range improvements. These actions are likely to further limit the abilities of permittees/lessees to fully utilize permitted AUMs and result in increased time and cost for management.</p>
Travel Management					
Areas currently designated as open to cross-country OHV use would continue to be managed as such. There would be no new	The BLM and Forest Service would limit motorized travel to existing roads and trails in PPMA. This would reduce cross-country	The BLM and Forest Service would limit motorized travel to existing roads and trails in PPMA. Additionally, in PPMA, new road	All BLM lands in Field Offices containing GRSG habitat would be limited to existing routes and off-road motorized travel prohibited	Impacts under Alternative E would be similar to Alternative D, with fewer acres identified as limited to existing routes in GRSG habitat.	Impacts under Alternative F on BLM-administered lands would be the same as Alternative B. Impacts on Forest Service-administered lands

Table 2-19
Summary of Environmental Consequences

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<p>restrictions related to GRSG habitat management and no change in current levels of access under Alternative A.</p> <p>All Forest Service-administered lands would be limited to designated routes.</p>	<p>access in those portions of PPMA that were previously managed as open for cross-country travel. Applications for the upgrading or realignment of existing routes would be required to meet certain design, location, and mitigation criteria intended to protect GRSG habitat. These requirements may preclude the construction of some new routes, but would be unlikely to reduce access across the decision area.</p> <p>Impacts on Forest Service-administered lands would be the same as for Alternative A.</p>	<p>construction within 4 miles of active leks would be prohibited. Upgrading of existing routes in occupied habitat where such action would damage GRSG habitat would also be precluded. Together, these actions would result in site-specific losses of opportunity for motorized travel and future route construction and improved access.</p> <p>Impacts on Forest Service-administered lands would be the same as for Alternative A.</p>	<p>with the exception of specific areas managed as open for recreation purposes.</p> <p>Impacts on Forest Service-administered lands would be the same as for Alternative A.</p>		<p>would be the same as for Alternative A.</p>
Lands and Realty					
<p>ROW avoidance and exclusion restrictions would not be applied in GRSG habitat, thus, not preventing the BLM or Forest Service from accommodating future demand for ROW development within the planning area.</p> <p>Existing transportation routes would continue to provide motorized access to ROW infrastructure and communication sites for construction and maintenance with no additional impacts on lands and realty from travel and transportation management.</p> <p>GRSG habitat would remain available for withdrawal or disposal as needed to serve BLM or other agency objectives.</p>	<p>Managing PPMA as ROW exclusion would prevent the BLM and Forest Service from accommodating new ROW development in those areas. With a continuing demand for new ROWs in the planning area, including major inter- and intra-state electrical transmission and pipeline ROW developments would be prevented or diverted to adjacent non-federal lands. Development on adjacent lands could result in more extensive direct and indirect impacts on GRSG populations and habitat (e.g., vehicle traffic on roads crossing public lands), especially if the development is within close proximity to GRSG habitat on BLM-administered or Forest Service-administered lands, or the ROW route is longer to avoid federal lands.</p> <p>Within exclusion areas, BLM and Forest Service would only consider new ROW authorizations where the proposed infrastructure could</p>	<p>The BLM would not authorize new ROWs in exclusion areas unless the infrastructure could be located in an existing ROW authorization footprint. Impacts under Alternative C would be similar to Alternative B, but over a greater area.</p> <p>Alternative C would further limit opportunities for communication facilities, pipelines, fiber optic cables, electrical transmission lines, and similar ROW development in response to ongoing needs.</p> <p>Impacts on land tenure would be the same as Alternative B but cover a wider area (all occupied habitat).</p>	<p>Lands and Realty management under Alternative D would establish avoidance areas in GRSG habitat, impacting the BLM- and Forest Service-administered lands and realty programs by reducing the BLM and Forest Service's ability to authorize above-ground linear ROWs, such as electrical transmission lines in PPMA.</p> <p>Within avoidance areas, additional stipulations for the development of electrical transmission lines could result in the denial of projects that cannot meet ROW grant requirements for the protection of GRSG habitat. Limitations on electrical transmission line development, renewable energy development, and new roadways under Alternative D would be less than Alternative C which creates exclusion areas,</p> <p>Impacts from travel management would be the same as those described above under Alternative B.</p>	<p>Stipulations associated with ROW avoidance areas under Alternative E would limit the BLM's ability to accommodate the demand for new infrastructure development in GRSG habitat, but less than establishing exclusion areas. With demand for new ROWs in the planning area, including major inter- and intra-state electrical transmission and pipeline ROW developments, expected to continue and increase over time, new ROW development would be diverted to adjacent non-federal lands or blocked. If new ROW development could not be feasibly developed, the result would be reduced energy and communication opportunities to meet growing needs.</p> <p>Impacts from travel management would be the same as those described under Alternative A.</p> <p>Impacts on land tenure would be the same as Alternative A.</p>	<p>With establishment of ROW exclusion areas, neither the BLM nor Forest Service would authorize new ROW development in occupied habitat. Therefore, Alternative F would further reduce opportunities for renewable energy, communication facilities, pipelines, fiber optic cables, electrical transmission lines, and similar ROW development from occurring in the planning area, to meet growing energy and communication needs, similar to Alternative B.</p> <p>Impacts from Travel and Transportation Management under Alternative F would be the same as Alternative A.</p> <p>Impacts on land tenure would be the same as Alternative B.</p>

Table 2-19
Summary of Environmental Consequences

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
	be co-located entirely within the footprint of an existing ROW. BLM and Forest Service would require co-location in PGMAs where possible. Impacts on the lands and realty program under Alternative B would include the need to locate proposed facilities outside exclusion areas or within existing ROWs, which limits the BLM’s ability to accommodate the demand for new infrastructure development, including wind energy development. PPMA lands would not be available for disposal or withdrawal, limiting BLM’s ability to accommodate other management objectives with land tenure changes.		Impacts on land tenure would be the same as Alternative B.		
Minerals					
Fluid Minerals (Oil, Gas, and Geothermal)					
Under Alternative A, 1,319,300 acres would continue to be closed to fluid mineral leasing. New leases in most BLM field offices and Forest Service districts within the decision area would continue to be subject to TLs, and NSO buffers would be applied for varying distances around leks. Acres closed have the greatest impact on the fluid minerals program by prohibiting oil and gas development on portions of federal mineral estate with high potential for such development. In areas closed to leasing, oil and gas operations would be restricted in their choice of project locations and may be forced to develop in areas that	All federal mineral estate within PPMA (9,830,600 acres) would be closed to oil and gas leasing. Closure of these acres would directly impact the fluid minerals program as described under Alternative A. However, because the acreage closed would increase under Alternative B, the magnitude of these impacts would also increase. Existing leases would remain valid through their term but could not be renewed, resulting in further long-term restrictions on the development of fluid mineral resources. Conservation measures in addition to RDFs would be applied as COAs to existing leases on PPMA overlying federal mineral estate. Application of these requirements	All federal mineral estate in the decision area would be closed to oil and gas leasing. Closure of these acres would directly impact the fluid minerals program as described under Alternative A; however, because Alternative C would close the most acres out of any alternative, the magnitude of these impacts would also increase. Management actions applicable to existing leases under Alternative C would be similar to those under Alternative B, but they would apply to all existing leases in the decision area. Alternative C would also call for COAs implementing seasonal restrictions on vehicle traffic and human presence associated with exploratory drilling. This alternative also would limit new surface disturbance on existing leases to 3	Fluid mineral allocations in PPMA and PMMA would vary depending on oil and gas development potential. Federal mineral estate with no or low oil and gas potential would be closed to leasing (9,578,700 acres), while federal mineral estate with moderate or high oil and gas development potential would be subject to CSU and TL stipulations, and an NSO stipulation would apply within 0.6 mile of leks. New leases within PPMA and PMMA would be subject to density limitations and a 3-percent disturbance cap for each section. Management of existing fluid mineral leases under Alternative D would be the same as that under Alternative B except that all management actions other than RDFs would apply to all 101 existing	Within the planning area, 2,118,900 acres would be closed to fluid mineral leasing under this alternative. Management of the 101 existing leases in the decision area would be the same as that under Alternative A. Unleased areas in CHZ and IHZ would be open to leasing subject to an NSO stipulation.	All federal mineral estate in the decision area (9,864,300 acres) would be closed to oil and gas leasing. Closure of these acres would directly impact the fluid minerals program as described under Alternative A; however, because Alternative F (like Alternative C) would close the most acres out of any alternative, the magnitude of these impacts would increase. Management actions applicable to existing leases under Alternative F would be similar to those under Alternative C. However, under Alternative F, TLs would prohibit human presence as well as surface-disturbing activities during the nesting and brood-rearing season. This management would be the most restrictive management out of all the alternatives.

Table 2-19
Summary of Environmental Consequences

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
are challenging to access or have less economic resources because more ideal areas could be closed to leasing. This could raise the cost of fluid mineral development in the planning area and could result in operators moving to nearby private or state minerals that are open to leasing.	would impact fluid mineral operations by increasing costs if it resulted in the application of additional requirements and/or use of more expensive technology. To avoid these costs, operators may move to nearby state or private minerals, resulting in lost royalties for the BLM and Forest Service.	percent per section, with some exceptions. Impacts of these operating and siting restrictions would be the same type as those described under Alternative B, although the magnitude of the impacts would increase.	leases within GRSG habitat.		
Non-energy Leasables					
<p>Under Alternative A, no changes would be made to the acres open and closed to leasing consideration. Currently, 1,119,800 acres are closed to non-energy mineral leasing.</p> <p>Existing federal non-energy leasable mineral leases in the decision area would continue to be subject to any stipulations or BMPs contained in those leases. Application of BMPs could alter how mineral resources are accessed and extracted and result in the use of different technology than would otherwise have been used.</p> <p>Non-energy leasable mineral development operations may also move to nearby private or state minerals containing non-energy leasable mineral resources within GRSG habitat. This change would result in lost royalties for the BLM and Forest Service.</p>	<p>Under Alternative B, PPMA would be closed to prospecting and leasing (8,304,600 acres_ . Management under this alternative would close more federal mineral estate to non-energy leasable mineral prospecting and leasing than management under Alternative A. Closing areas to non-energy mineral prospecting and leasing would result in the same type of impacts as under Alternative A, but over a larger area.</p> <p>Existing federal non-energy leasable mineral leases in PPMA would be subject to RDFs. Application of RDFs would increase costs of non-energy leasable development if it delayed resource development or resulted in the use of more expensive technology or less efficient development than would otherwise have been used.</p>	<p>Impacts under Alternative C would be the same as those described under Alternative B except that more acres would be closed (10,939,819 acres). As a result, the magnitude of impacts under this alternative would increase.</p>	<p>Under Alternative D, PPMA and PMMA would be closed to prospecting and leasing. Management under this alternative would close more federal mineral estate (8,308,600 acres) to non-energy leasable mineral prospecting and leasing than management under Alternative A.</p> <p>CSUs and seasonal and daily TLs would be applied to all lands available for leasing in PGMA. Additionally, TLs would be applied to the ten federal phosphate leases within GRSG habitat.</p> <p>Applying BMPs as Conditions of Approval on any new mine plan and requiring restoration of habitat or off-site mitigation could alter how mineral resources are accessed and extracted and result in the use of different (potentially more expensive) technology than would otherwise have been used.</p>	<p>Non-energy leasable mineral allocations under Alternative E would be the same as those under Alternative A and would result in the same impacts.</p> <p>Lands open to leasing would be subject to several stipulations that include prohibiting permanent structures within occupied leks, prohibiting tall structures within one mile of leks, restrictions on noise disturbances, and various TLs specific to protecting leks. Stipulations would restrict the ability of mineral resources to be developed or extracted.</p>	<p>Impacts under Alternative F would be the same as those described under Alternative C, but would protect a smaller area (8,334,300 acres).</p>
Locatable Minerals					
<p>Under Alternative A, no change would be made to the acres of federal mineral estate with high potential that are withdrawn or petitioned for withdrawal</p>	<p>Under Alternative B, PPMA (8,295,084 acres) would be petitioned for withdrawal. The large increase in areas petitioned for withdrawal under this</p>	<p>Impacts under Alternative C would be the same as those described under Alternative B except that more acres (10,939,819 acres) would be affected. The magnitude of impacts under this</p>	<p>Impacts under Alternative D would be the same as those described under Alternative A, except that additional measures to avoid or minimize adverse effects on GRSG</p>	<p>Impacts under Alternative E would be the same as those described under Alternative A.</p>	<p>Impacts under Alternative F would be the same as those described under Alternative B.</p>

Table 2-19
Summary of Environmental Consequences

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<p>(currently 1,278,686 acres). Withdrawal or closure of an area to mining development eliminates the ability to access and extract the mineral resources in that area under new claims. This represents an impact on the potential discovery, development, and use of those resources by decreasing the availability of mineral resources. In addition, validity exams must be completed on all existing claims in withdrawn areas. The need for these exams adds costs and delays for the BLM, Forest Service, and claimant.</p> <p>This alternative would be the least restrictive to locatable minerals because a larger percentage of the decision area would be open to locatable mineral entry and no additional restrictions would be applied to mining operations.</p>	<p>alternative compared with Alternative A would increase the development delays and costs of validity exams on the BLM, Forest Service, or claimant. Accessing and extracting locatable minerals of federal mineral estate would not be impacted by applying BMPs; however, mining operations and practices could be affected and costs increased if an operator agrees to apply any of the BMPs on a project-specific basis.</p>	<p>alternative would increase since more acreage would be affected.</p> <p>Impacts from applying BMPs would be the same as those described under Alternative B.</p>	<p>and their habitat would be required for 3809 notices and plans of operations in all habitat types. A total of 621,245 acres would be withdrawn or proposed for withdrawal under this alternative. Impacts from these additional measures would be highly variable depending on the extent of the additional requirements. If these measures resulted in the mineral resource not being able to be accessed or extracted, an impact on the potential discovery, development, and use of those resources would occur because the availability of mineral resource would decrease.</p> <p>Impacts from applying BMPs would be the same as those described under Alternative B.</p>		
Salable Minerals (Mineral Materials)					
<p>Under Alternative A, no change would be made to the acres that would open or closed (currently 707,200 acres closed) to mineral material disposal.</p>	<p>Management of mineral materials on federal mineral estate outside of PPMA would be the same as that under Alternative A.</p>	<p>Under Alternative C, all PPMA would be closed to mineral material disposal.</p>	<p>Under Alternative D, areas within 3 km of occupied leks would be closed to mineral materials disposal.</p> <p>All other areas in GRSG habitat would be subject to TLs.</p>	<p>Within Idaho CHZ would be closed to mineral material disposal (710,700 acres).</p> <p>Under Alternative E, mineral materials management would differ between portions of the decision area in Idaho and Montana and portions in Utah.</p> <p>Within Idaho and southwest Montana, core areas would be closed to mineral material disposal. Closure of the 114 existing community pits in core areas (23 percent of existing community pits in GRSG habitat) would also be recommended.</p> <p>Within Utah, mineral material operations within PPMA would be subject to TLs and other restrictions.</p>	<p>All federal mineral estate not closed to mineral material disposal under Alternative A would remain open. Additional restrictions would apply to PPMA, including maximum cumulative new permanent disturbance from mineral materials development of no more than 5 percent of PPMA in each population area. Impacts of these restrictions on mineral material development would be the same type as those described under Alternative D.</p> <p>Mineral materials management under Alternative F would be the same as that under Alternative C with the same impacts.</p>

Table 2-19
Summary of Environmental Consequences

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Special Designations					
Areas of Critical Environmental Concern					
The BLM would continue managing the 53 existing ACECs containing 325,000 acres of occupied GRSG habitat to protect the identified relevant and important values. Sagebrush habitat is not identified as a relevant and important value in any of these existing ACECs.	No new ACECs would be designated. Impacts would be the same as those described under Alternative A.	Under Alternative C, 39 new BLM ACECs encompassing approximately 4,200,000 acres of occupied GRSG habitat would be designated as sagebrush reserves, for the relevant and important value of conserving GRSG.	No new ACECs would be designated. Impacts would be the same as those described under Alternative A.	No new ACECs would be designated. Impacts would be the same as those described under Alternative A.	Under Alternative F, up to 18 new BLM ACECs and Forest Service GRSG Zoological Areas encompassing up to 8.3 million acres of occupied GRSG habitat would be designated as sagebrush reserves for the relevant and important value of conserving GRSG.
Socioeconomic Impacts					
<p>Under Alternative A, current management would continue for grazing, mineral leasing and development, recreation, and other activities in GRSG habitat areas.</p> <p>The economic benefits of these activities would be maintained, and communities would not suffer losses in income or jobs associated with GRSG conservation efforts.</p>	<p>Under Alternative B, grazing would not be restricted on GRSG habitat, so permittees would not suffer economic losses.</p> <p>Recreational restrictions would be limited to motorized recreation, which constitutes a small percentage of recreation in PPMA. The increase expected in non-motorized recreation is expected to benefit communities and increase revenue and jobs over current management.</p> <p>Under Alternative B, mineral leasing for fluid minerals, salable minerals and mineral materials would be closed or restricted in PPMA. These restrictions would reduce the opportunity to develop minerals on federal land and reduce the revenue and jobs to local communities.</p>	<p>Alternative C would eliminate grazing from all allotments in occupied habitat. The elimination of permitted grazing in PPMA under Alternative C may result in permittees' going out of business, with impacts on both individual permittees as well as local communities as a whole.</p> <p>Under Alternative C, recreation in occupied habitat would be limited to activities neutral or beneficial to GRSG. These restrictions would affect non-motorized as well as motorized recreation and would reduce overall recreation levels, causing economic loss and job loss to communities in GRSG habitat areas.</p> <p>Socioeconomic impacts from reduced mineral leasing and development would be similar to Alternative B but would cover a wider area, all occupied habitat.</p>	<p>Under Alternative D, grazing would be maintained at current levels, maintaining the economic benefits of grazing to permittees and communities.</p> <p>Recreational restrictions would be similar to Alternative B and would be expected to modestly increase revenues over current levels.</p> <p>Mineral leasing acreage would not be reduced under Alternative D, but would be subject to stipulations regarding timing and proximity to GRSG lek sites. Maintaining current acreage open to leasing would minimize economic harm to workers and communities from GRSG conservation measures.</p>	<p>Under Alternative E, grazing would be maintained at current levels, maintaining the economic benefits of grazing to permittees and communities.</p> <p>Recreational restrictions would be similar to Alternative B and would be expected to modestly increase revenues over current levels.</p> <p>Mineral leasing acreage would not be reduced under Alternative E, but limited areas would be subject to stipulations regarding timing and proximity to GRSG lek sites. Maintaining current acreage open to leasing would minimize economic harm to workers and communities from GRSG conservation measures.</p>	<p>Alternative F restrictions on grazing could also harm permittees' economic well-being and may drive some out of business, causing harm to individuals and communities in GRSG habitat areas.</p> <p>Restrictions on recreation under Alternative F are similar to Alternative C and would cause a reduction in the value of recreational activities and the loss of recreation-associated jobs.</p> <p>Socioeconomic impacts from reduced mineral leasing and development would be similar to Alternative B.</p>

2.8 Summary Comparison of Alleviated Threats

Table 2-20, Comparison of Alleviated Threats to GRSG in the Idaho and Southwest Montana Sub-Region, describes how each alternative would alleviate threats to GRSG through habitat management. See **Chapter 4** for a detailed discussion of the environmental consequences of each alternative on GRSG.

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Table 2-20
Comparison of Alleviated Threats to GRSG in the Idaho and Southwest Montana Sub-Region

Alternative A		Alternative B		Alternative C	Alternative D	Alternative E ¹		Alternative F	
Fire, Fuels Treatments including Prescribed Fire									
	Varied treatment options – no standard.	In PPMA, there would be no treatments in winter habitat, no prescribed fire in areas with less than 12 inches precipitation, and all projects would use native seeds. GRSG habitat would be a high priority for wildfire suppression efforts and BMPs in IM 2013-128 would be followed. Use of native seed would be required and fuels treatments would be designed for long-term success. Development of a wildfire suppression strategy with regard to GRSG habitat would occur post-decision.	Some actions similar to Alternative B, though provides less guidance on fire suppression and fuels management. Relies on passive restoration efforts to indirectly reduce the risk of wildfires. Restores areas affected by anthropogenic disturbance outside the historic range of viability, such as nonnative seeding, fences, livestock grazing.	Similar to Alternative B with additional fuels management and suppression guidance.	Idaho – Provides guidance to reduce wildfire effects through development of a response time and water availability analysis, along with a consistent wildfire suppression plan and a fuels break strategy. Utah - Prescribed fire would only be considered at high elevations. Statewide fire agency agreements would be implemented. Loss of winter habitat would be limited to approximately 20 percent.		Same as Alternative B.		
Summary	All action alternatives will decrease habitat loss from prescribed fire and wildfire by limiting prescribed fire and prioritizing wildfire suppression efforts in the sub-region, which respond to the Conservation Objectives Team report objectives. Alternatives B, D, E, and F would also try to lessen the future probability of large fires in GRSG by putting in fire breaks which would further benefit GRSG. Alternatives B, C, D, and F all move to lessen habitat loss from treatments within winter habitat to varying degrees, which is consistent with the objective to retain sagebrush. Alternative C is passive toward fire and fuels management emphasizing natural restorative processes following a reduction in anthropogenic disturbance. In Alternative C, reduction in the threat of wildfire would occur over the long term from overall improvement of habitat.								
Invasive Species									
	Various control measures – no standard. Emergency Stabilization and Rehabilitation plans and strategic wildland fire suppression would be implemented. Invasive annuals would continue to be introduced and spread as a result of ongoing vehicle traffic in and out of the planning area, recreational activities, wildlife, improper livestock grazing, fire, and surface-disturbing activities (energy and infrastructure).	Invasive weeds would be controlled, suppressed, and eradicated. Limits anthropogenic disturbance to 3 percent. This alternative would also require native seed for restoration efforts, the use of BMPs for fire and fuels treatments, and invasive species prevention measures.	Relies on passive restoration efforts to indirectly reduce the risk of invasive annuals. Minimizes use of herbicides and emphasizes mechanical treatment methods. Reduces spread of invasive annuals by eliminating livestock grazing.	Similar to Alternative B with the additional requirement that noxious weeds and invasive species would be treated and monitored for at least 3 years after project construction.	Idaho - Similar to Alternative D with the additional requirement to treat and monitor invasive species associated with existing range improvements. Utah – Guidance to aggressively respond to new infestations and prevent invasive spread after wildfire.		Similar to Alternative B. Would also prioritize restoring sagebrush steppe invaded by nonnative plants. Limits anthropogenic disturbance to one instance per section and a cumulative 3 percent disturbance cap.		
Summary	All action alternatives respond to the COT report objectives by implementing actions to maintain and restore healthy sagebrush communities. Alternative D provides the lowest surface disturbance threshold (no unmitigated loss of habitat), which would reduce opportunities for incursion of nonnative species. Alternatives B, C, and F propose 3 percent thresholds in PPMA. Alternatives B, D, E, and F prioritize restoration of areas with invasive weed infestations and emphasize restoration, which would further reduce habitat degradation. Alternative C prioritizes restoration of invasive infestations but limits restoration to natural processes following a reduction in anthropogenic uses (livestock removal, fencing and roads infrastructure removal).								
Pinyon-Juniper Encroachment									
	Varying degrees of habitat objectives identified for	Does not provide specific guidance regarding pinyon-juniper	Alternative C prioritizes restoration in seasonal habitats as in Alternative	Would prioritize projects that address conifer encroachment into	Idaho - Would prioritize conifer removal in CHZ and IHZ.		Same as Alternative B.		

Table 2-20
Comparison of Alleviated Threats to GRSG in the Idaho and Southwest Montana Sub-Region

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E ¹	Alternative F
	maintenance, improvement, and restoration of sagebrush communities – no standard.	encroachment. Would prioritize restoration in seasonal habitats.	B; however, local native plant ecotype seeds and seedlings would be used to restore treated habitats. It could take longer for these habitats to recover and could be a loss of habitat for a certain amount of time. In addition, passive restoration is preferred for restoring these areas over active restoration methods.	important GRSG habitats. Conifer encroachment areas would be considered as areas to manage wildfire for resource benefit.	Utah – Would aggressively remove encroaching conifers and other plant species to expand GRSG habitat where possible.	
Summary	All action alternatives except Alternative C would respond to the pinyon-juniper objective in the Conservation Objectives Team report. The objective is to remove pinyon-juniper from areas of sagebrush that are most likely to support GRSG at a rate that is at least equal to rate of pinyon-juniper incursion. Alternatives D and E directly address juniper removal and prioritization. Alternatives B, C, and F talk more generally about restoration and thus may not provide the greatest assurance for improvement of GRSG habitat.					
Livestock Grazing, Structure Range Improvements and Wild Horses						
	There is no set direction to specifically consider GRSG in grazing decisions. Structural range improvements are considered on a case-by-case basis while maintaining rangeland health. Wild horses would be managed within appropriate management levels.	Same open/closed acreages as Alternative A. Rangeland would be managed for vegetation composition and structure consistent with ecological site potential and within the reference state to achieve GRSG seasonal habitat objectives in Connelly et al. 2000 and Hagen et al. 2007. GRSG would benefit by having the structural components needed for all of their life cycle needs. Structural range improvements must conserve, maintain, enhance or restore GRSG habitat through improved grazing management system. Water development would need to be neutral or beneficial to GRSG. Wild horses would be managed within appropriate management levels and the evaluation of AMLs would be prioritized in PPMA. Herd Management Area Plans would be developed for all HMAs.	Alternative C would make public lands unavailable to livestock grazing. This could benefit GSRG by improving ground cover, leaving more grass and forbs. However, there could be possible increases in wildfire and invasive species risks. Wild horse and burro management would be the same as Alternative A.	Same open/closed acreages as Alternative A. PPMA would be the highest priority for BLM land health assessments. Desired cover percentages and heights for sagebrush, grasses, and forbs in seasonal habitats will follow habitat guidelines in the habitat assessment framework (Stiver et al. 2010). Any new structural range improvements would be designed to maintain, enhance, or restore GRSG habitat through an improved grazing management system relative to GRSG objectives. Existing structural range improvements and supplements would be reevaluated in PPMA and PMMA. New water developments within PPMA would be limited and need have a neutral effect or be beneficial to PPMA. Wild horse and burro management would be the same as Alternative B with the additional requirement that HMAs would not be expanded in PPMA.	Idaho - Same open/closed acreages as Alternative A. Similar to Alternative D with emphasis on adaptive management. Wild horse and burro management would be the same as Alternative A. Utah - Livestock grazing would continue using BMPs. Repeated, annual heavy use during critical growing seasons and of season-long grazing on wet meadows and riparian areas would be avoided. Water developments would enhance or maintain GRSG mesic habitat. Range improvement structures would avoid leks. Wild horse and burro management would be the same as Alternative A.	Alternative F requires a 25% reduction in livestock grazing. Other management would be similar to Alternative B. Wild horse and burro management would be the same as Alternative B.

Table 2-20
Comparison of Alleviated Threats to GRSG in the Idaho and Southwest Montana Sub-Region

Alternative A		Alternative B		Alternative C		Alternative D		Alternative E ¹		Alternative F	
Summary	All action alternatives would manage grazing to better meet the ecological conditions that maintain or restore healthy sagebrush shrub and native perennial grass and forb communities and conserve the essential habitat components for GRSG (e.g., shrub cover, nesting cover), which responds to the Conservation Objectives Team report objective. All action alternatives emphasize GRSG in decision making for livestock grazing; however, Alternative C would remove grazing from PPMA and Alternative F would reduce grazing. Grazing management would be similar between Alternatives B, D, and E, with slightly different guidance or priorities. For wild horses there would be a focus on GRSG habitat and priority for gathers in GRSG habitat for Alternatives B, D, and F. These alternatives include evaluation of HMAs and Wild Horse Territories to consider adjustments in AML to meet GRSG habitat standards. Alternatives C and E do not directly address WHB.										
Infrastructure - Right-of-way											
	Various areas managed as ROW avoidance and exclusion, but most are not specific to protect GRSG and GRSG habitat.	In addition to exclusion and avoidance in Alternative A, all PPMA would be managed as ROW exclusion and all PGMA as ROW avoidance. Emphasizes opportunities for co-location within designated corridors and within the footprint of existing disturbance. Recommends removing, burying, or modifying existing power lines within priority habitat	All GRSG habitat would be managed as ROW exclusion. Provides for review of all existing transmission lines to amend ROWs to require features that enhance GRSG habitat security.	In addition to exclusion and avoidance in Alternative A, all GRSG habitat would be managed as ROW avoidance. New authorizations would not be allowed in PPMA for transmission facilities greater than 50 kV, mineral and energy development, roads, airports, and associated ancillary facilities.	CHZ (Idaho) and PPMA (Utah) would be ROW avoidance with limited exceptions.	Same as Alternative B.					
Summary	All alternatives respond to the conservation objective for infrastructure identified in the Conservation Objectives Team report, which is to avoid development within priority areas for conservation. Alternatives B, C, D, and F all close certain areas to new ROWs. The difference between these alternatives is the amount of GRSG habitat that would be closed and the type of ROWs that would be prohibited or restricted. Alternative C closes all occupied GRSG habitat to new ROWs and is the most restrictive. Alternatives B and F include the same restrictions as Alternative C; however, these restrictions would be applied to a smaller geographic area. Alternative D would provide fewer restrictions, as all GRSG habitat would be ROW avoidance with exclusions for certain ROWs in PPMA. Under Alternative E, some GRSG habitat would be managed as ROW avoidance. This may eliminate habitat loss, degradation, and fragmentation in important seasonal habitats. However, because there are few if any exclusions under this alternative, there is less assurance of protection for GRSG. All alternatives seek to avoid conflict with GRSG habitat, to utilize existing corridors, and to co-locate within existing development footprints.										
Infrastructure – Roads											
	Some GRSG habitat on BLM-administered land is open to cross-country motorized travel. All Forest Service-administered lands are limited to designated routes. Road ROWs would be issued on a case-by-case basis.	In addition to current limited and closed designations in the No Action alternative, all PPMA would be designated as limited to existing roads pending travel management planning and roads designation. PPMA would be ROW exclusion areas for road ROWs and PGMA would be ROW exclusion areas for road ROWs. Provides guidance for restricting new road construction and mitigation where roads are allowed under prior existing rights. Provides for road closure and	Same as Alternative B. PPMA would be ROW exclusion areas for road ROWs.	All GRSG habitat would be limited to existing roads pending travel management planning and roads designation. PPMA would be ROW exclusion areas for road ROWs. All other GRSG management areas would be ROW avoidance areas for road ROWs. The emphasis of the comprehensive travel and transportation planning would be placed on having a neutral or positive effect on GRSG habitat. Would prioritize restoration of linear disturbances.	Idaho - All GRSG habitat would be limited to existing roads pending travel management planning and roads designation. CHZ (Idaho) and PPMA (Utah) would be ROW avoidance with limited exceptions for road ROWs. Utah: PPMA with nesting and winter habitat that do not have designated routes in a Travel Management Plan would be managed at least as limited to existing routes.	Same as Alternative B, except decisions would be applied to all occupied GRSG habitat. Also no new routes would be allowed within 4 miles of a lek.					

Table 2-20
Comparison of Alleviated Threats to GRSG in the Idaho and Southwest Montana Sub-Region

Alternative A		Alternative B	Alternative C	Alternative D	Alternative E ¹	Alternative F
		rehabilitation. Provides for seasonal road closures. PGMA would be designated as per the travel management plan in the current planning document.				
Summary	All alternatives respond to the Conservation Objectives Team report objective to varying degrees. All alternatives would limit motorized travel to existing or designated routes in certain areas, which would eliminate unauthorized route creation. The difference between alternatives is the amount of GRSG habitat that would be changed from an open to a limited category. Alternative A would have the fewest acres limited to existing roads and trails, followed by Alternatives B and F. Under Alternatives C, D, and E, all GRSG habitat would be limited to existing roads and trails.					
Infrastructure - Fences						
	No decisions	Fences would be removed, modified, or marked in high risk areas within PPMA.	No decisions	Fences would be designed and located to minimize the potential for GRSG strikes. Fences would be priorities for removal, modification, or marking in PPMA and PMMA in areas of moderate or high collision risk.	Idaho – Fences would be marked in areas of moderate to high fence densities. Utah – Fences would not be located on or adjacent to leks where bird collisions would be expected to occur.	Same as Alternative B.
Summary	Some of the alternatives respond to the intent of the Conservation Objectives Team report objectives, which is to minimize impacts from fences on GRSG. Alternatives B, D, and F would consider more of the conservation options identified in the Conservation Objectives Team report. For example, marking fences would decrease bird/fence collisions, and removal of unneeded fences would decrease collisions and opportunities for avian predation. Alternative E in Idaho would only include marking fences.					
Energy Development (Non-renewable)						
	Most areas would be open to energy development. Various stipulations apply, with a range of protective buffers around leks. In general, recently completed plans include a larger protective buffer. Recently completed plans also include a management action that prohibits surface disturbing activities or disruptive activities during certain dates in seasonal habitats.	PPMA would be closed to new leasing, though development of existing leases in PPMA would still cause fragmentation, direct and indirect habitat loss, disruption of GRSG, and degradation of habitat. Required design features would reduce the effects of development. Disturbance would be clustered on the landscape and would be limited to 3 percent per section on average. Seasonal restrictions would decrease seasonal disruption to GRSG populations.	Same as Alternative B, except a larger geographic area would be closed to leasing.	Low potential and no known potential areas would be closed to leasing in PPMA and PMMA. Moderate and high potential areas in PPMA and PMMA would be open to leasing subject to CSU, timing restrictions in breeding and winter habitat, disturbance density not to exceed 1/640 acres, maximum 3% disturbance/section, NSO within 0.6 mile of occupied or undetermined status leks. PGMA would be open to leasing subject to timing limitations in breeding and winter habitat, 0.6 mile NSO near occupied and undetermined status leks, and implementation of appropriate BMPs.	Idaho – Same as Alternative A. Utah – PPMA would be open to leasing subject to CSU and TL stipulations.	Same as Alternative B.

Table 2-20
Comparison of Alleviated Threats to GRSG in the Idaho and Southwest Montana Sub-Region

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E ¹	Alternative F
Summary	To varying degrees all action alternatives respond to the Conservation Objectives Team report objective for energy, which is that energy development should be designed to ensure that it will not impinge on stable or increasing GRSG population trends. Alternatives B, C, and F close areas to new leasing. The difference between these alternatives is the amount of GRSG habitat that would be closed. Alternative C closes all occupied GRSG habitat to new leasing and is the most restrictive. Alternatives B and F include the same restrictions as Alternative C; however, these restrictions would be applied to a smaller geographic area. Management under Alternative D would vary depending on the potential for fluid mineral discovery and would generally be less restrictive than Alternatives B, C, and F. Stipulations such as NSO, CSU, and TL would restrict the amount, location, and timing of development. These restrictions would reduce habitat loss, degradation, and fragmentation in seasonal habitats. Alternative E would provide the fewest restrictions on fluid mineral leasing and development. Under Alternatives B, C, and F RDFs would be attached to new and existing leases. Applying required design features to existing leases may eliminate habitat loss, degradation, and fragmentation. However, the effectiveness of these measures would be limited in areas where there is already extensive development. Under Alternative D, design features would not be required, but would be discretionary. There would be no restrictions on existing leases under Alternative E.					
Mining – Solid Minerals, Non-energy Leasables, Locatables, and Mineral Materials						
	Various areas recommended for withdrawal/currently withdrawn and closed to mineral material disposal and non-energy mineral leasing. There is no surface disturbance limitation recommendation included in this alternative.	PPMA would be withdrawn from locatable mineral entry, closed to mineral material disposal, and closed to non-energy mineral leasing. Development of existing leases would result in habitat loss and fragmentation. A 3 percent surface disturbance threshold and RDFs would be applied.	Same as Alternative B except decisions would be applied to a larger geographic area (all occupied habitat).	Same as Alternative A for locatable minerals. No new salable mineral authorizations would be approved within 3 km of an occupied lek in all GRSG habitat. Seasonal timing restrictions would be applied in all GRSG habitat. BMPs would be applied in PPMA and PMMA. Future leasing and prospecting of non-energy minerals in PPMA and PMMA is closed	Idaho - Same as Alternative A for locatable, salable, and non-energy leasable minerals. Utah - Same as Alternative A for locatable minerals. PPMA would be open to salable and non-energy leasable minerals; impacts would be reduced through the application of stipulations.	Same as Alternative B.
Summary	To varying degrees all action alternative respond to the COT report objectives, which is to maintain GRSG population and no net loss of GRSG habitat in in areas affected by mining. Alternatives B, C and F would be closed or withdrawn to other minerals. Therefore, future impacts on GRSG would not occur, which address the objectives in the COT report. Under Alternative D, surface use restrictions would be placed on development to protect breeding, and some nesting and early brood-rearing habitat, which would provide opportunities for nest success and chick survival. Additional stipulations (CSU and TL) would restrict the type, amount, location, and timing of development. These restrictions would reduce habitat loss, degradation and fragmentation. Under Alternative E in Idaho, impacts would continue, as management would be the same as Alternative A. Some impacts would be reduced in Utah through the application of stipulations. As such, there is less assurance of protection for nesting GRSG. Alternatives B, C, and F would require RDFs along with other conservation measures to reduce habitat loss, fragmentation, degradation, and disturbance to the extent possible on valid rights. Under Alternative D, design features would not be required, but would be discretionary. There would be no restrictions on existing leases under Alternative E.					
Renewable Energy Sources – Wind Energy						
	Most GRSG habitat is open to wind development. There is no surface disturbance limitation recommendation included in this alternative.	Wind development would be excluded in PPMA under this alternative. There are no restrictions for PGMA under this alternative.	Same as Alternative B; however, under this alternative, all GRSG habitat would be excluded from wind development.	PPMA would be excluded from wind development. Other GRSG habitat would be avoidance areas.	Idaho – CHZ would be avoidance areas for wind development. Utah – PPMA would be avoidance areas for wind development.	Same as Alternative B
Summary	To varying degrees all alternatives respond to the conservation objective for energy, which is to ensure that development will not impinge upon stable or increasing population trends. Alternatives B, C, D, and F provide protection from wind development to GSRG and their habitat since all four stipulate that wind development is excluded from PPMA. Population declines could occur under Alternatives A and E, as wind development would be allowed. Stipulations on development would reduce habitat loss, fragmentation, degradation, and disturbance.					

Table 2-20
Comparison of Alleviated Threats to GRSG in the Idaho and Southwest Montana Sub-Region

Alternative A		Alternative B		Alternative C	Alternative D	Alternative E ¹	Alternative F
Recreation/Travel Management							
	Cross-country motorized travel is generally allowed on BLM-administered lands. Forest Service-administered lands are limited to designated routes.	In addition to current limited and closed designations in the No Action alternative, all PPMA would be designated as limited to existing roads pending travel management planning and roads designation. Provides guidance for restricting new road construction and mitigation where roads are allowed under prior existing rights. Provides for road closure and rehabilitation. Provides for seasonal road closures. Recreational permits would only be issued in GRSG priority habitats that have neutral or beneficial effects.	Alternative lacks specificity regarding travel management but states that all lands will be closed to cross-country travel and some roads that intrude into lek or winter habitats will be removed or seasonally closed.	All GRSG habitat would be limited to existing roads pending travel management planning and roads designation. The emphasis of the comprehensive travel and transportation planning would be placed on having a neutral or positive effect on GRSG habitat. Would prioritize restoration of linear disturbances. Recreation would be managed to minimize impacts on GRSG or their habitat.	Idaho - All GRSG habitat would be limited to existing roads pending travel management planning and roads designation. No guidance is provided regarding recreation management. Utah: PPMA with nesting and winter habitat that do not have designated routes in a Travel Management Plan would be managed at least as limited to existing routes. Stipulations would be used to reduce impacts from recreation.	Management would be similar to Alternative B except specifies in priority habitat camping and other non-motorized recreation would be prohibited during certain seasons within 4 miles of a lek. In addition, there would be no new route construction within 4 miles of a lek.	
Summary	To varying degrees, all action alternatives respond to the COT report objective, which is that areas subject to recreation activities should maintain healthy native sagebrush communities based on local ecological conditions and with consideration of drought conditions, and managed direct and indirect human disturbance (including noise) to avoid interruption of normal GRSG behavior. PPMA would be limited to existing roads under Alternatives B and F. Under Alternatives C, D, and E, all GRSG habitat would be limited to existing roads. Once travel management planning is completed, this would be changed to a limited to designated routes category. These alternatives would prevent proliferation of new routes, and would include direction for seasonal closures, route realignment, and provisions for valid existing rights. Recreation management under all action alternatives would aim to reduce impacts on GRSG and habitat.						
Agriculture/Urbanization							
	Most LUPs include a management action that allows for acquisition of lands that have important resource values including GRSG. Land tenure adjustments could result in consistent management across the landscape.	Retains public ownership of PPMA with exceptions for considering which improve ownership patterns in a manner which enhances GRSG habitat management. Takes advantage of opportunities to remove or bury existing infrastructure associated with urban/ex-urban development and to collocate infrastructure to consolidate impacts. (See Infrastructure)	Same as Alternative B.	Land tenure actions would be similar to Alternative B.	Idaho and Utah – Same as Alternative A.	Same as Alternative B.	
Summary	To varying degrees, all action alternatives respond to the COT report objective to limit urban and exurban development in GRSG habitats and maintain intact native sagebrush communities by managing land tenure, consolidating and otherwise minimizing the impacts of infrastructure supporting adjacent development, and burial/removal of infrastructure. Alternatives B, C, D and F favor land acquisition as a tool for conserving important habitat on private lands. All alternatives prescribe ROW exclusion or avoidance (see Infrastructure) and colocation of infrastructure to minimize footprint. Alternatives B, D, and F contain specific actions directed at burial or removal of existing infrastructure such as power lines. Alternatives B, C, D, and F call for retention of all GRSG habitats in public ownership. Impacts would continue to occur under Alternative E, which is the same as Alternative A.						

Chapter 3

Affected Environment



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Chapter 3. Affected Environment

3.1 Introduction

This chapter documents the existing conditions and trends of resources in the planning area that may be affected by implementing any of the proposed alternatives described in **Chapter 2, Alternatives**. The affected environment provides the context for assessing potential impacts, which are described in **Chapter 4, Environmental Consequences**.

For this LUPA/EIS, the planning area is the entire sub-region within Idaho, southwestern Montana, and the portion of the Sawtooth National Forest within Utah. Specifically, the planning area is the sum of the GRSG population areas within this sub-region, regardless of landownership. **Table 3-1, Acres of GRSG Habitat by Surface Management**, provides a detailed breakdown of landownership status in the planning area. A map of the planning area is provided in **Chapter 1, Figure 1-3, Planning Area**.

The decision area includes the portions of the planning area that are composed of BLM, Forest Service, and Bankhead Jones surface estates, as well as the mineral estates administered by the BLM or Forest Service. Though the planning area includes private lands, decisions made in this LUPA only apply to BLM and Forest Service surface and minerals. Management direction and actions outlined in this EIS apply only to these BLM-administered and Forest Service-administered lands in the planning area and to federal mineral estate under BLM jurisdiction that may lie beneath other surface ownership. The federal government does not always own every type of mineral in a given acre of federal mineral estate. For example, in some areas, the federal government will only own the coal rights, while a private or state entity might own the oil and gas rights. For this reason, the federal mineral estate for any specific mineral type in the decision area is different than that for all other mineral types in the decision area.

While not a part of the planning area in the Idaho and Southwestern Montana GRSG Sub-Region, the Jarbidge and Bruneau Field Offices in Idaho will implement GRSG decisions on 77,800 acres of BLM-administered lands in Elko County, Nevada, located north of the Humboldt-Toiyabe National Forest and south of the Idaho-Nevada state line adjacent to the Bruneau and Jarbidge Field Offices in Idaho. For purposes of the GRSG plan amendments in Idaho and in Nevada, planning for these lands will occur through the Nevada and Northeastern California GRSG LUPA, and the regulatory measures and decisions that are put in place for the GRSG through the ROD will be implemented and administered by the Jarbidge and Bruneau Field Offices in Idaho. Due to their remoteness from other BLM-administered lands in Nevada, and because they are contiguous with major blocks of BLM-administered lands in Idaho, a Memorandum of Understanding (MOU) between BLM Nevada and BLM Idaho transfers administration of those lands to BLM Idaho.

To augment this planning document at a biologically meaningful scale for GRSG, the BER was produced by the USGS for the BLM and Forest Service (Manier et al. 2013). The BER is a science support document that provides information to put planning units and issues

Table 3-1
Acres of GRSG Habitat by Surface Management

Surface Land Management	Acres PPH	Acres PGH	Acres Outside Habitat	Total Acres
BLM Total	7,266,502	1,993,711	3,469,923	12,730,136
BLM – Idaho	6,811,269	1,749,965	2,982,419	11,543,653
Bruneau Field Office	1,000,975	184,738	262,883	1,448,596
Burley Field Office	422,038	206,232	206,665	834,935
Challis Field Office	635,561	84,386	72,920	792,867
Four Rivers Field Office	162,179	190,816	901,410	1,254,405
Jarbridge Field Office	765,096	251,971	305,140	1,322,207
Owyhee Field Office	794,635	242,740	222,505	1,259,880
Pocatello Field Office	233,651	87,506	278,785	599,942
Salmon Field Office	311,068	51,666	131,220	493,954
Shoshone Field Office	1,092,382	262,015	368,782	1,723,179
Upper Snake Field Office	1,393,684	187,895	232,109	1,813,688
BLM – Montana	455,233	243,746	487,504	1,186,483
Butte Field Office ⁹	0	25,497	274,062	299,559
Dillon Field Office	455,233	218,249	213,442	886,924
Forest Service Total	963,016	897,476	12,027,664	13,887,758
Forest Service - Idaho	800,412	661,830	9,631,958	11,094,200
Sawtooth National Forest	281,887	212,366	1,605,803	2,100,056
Boise National Forest	21,371	53,728	2,131,461	2,206,560
Caribou-Targhee National Forest	148,636	187,053	2,223,553	2,559,242
Salmon-Challis National Forest	348,518	208,683	3,671,141	4,228,342
Forest Service - Montana	162,604	235,646	2,395,706	2,793,558
Beaverhead-Deerlodge National Forest	162,604	235,646	2,395,706	2,793,558
US Fish and Wildlife Service	35,244	3,648	21,433	60,325
National Park Service	27,334	222,701	420,379	670,414
Department of Energy	378,042	182,455	1,672	562,169
Department of Defense	11,148	37,714	81,014	129,876
Bureau of Reclamation	3,171	22,729	217,720	243,620
Bureau of Indian Affairs	60,635	29,161	273,926	363,722
Indian Tribe	143,949	10,672	188,991	343,612
Idaho State	642,411	368,186	802,820	1,813,417
Montana State	221,665	167,455	431,995	821,115
Private	2,137,373	2,235,327	12,762,174	17,134,874
Other	55,621	29,564	280,985	366,170
Total Acres:	11,946,111	6,200,799	30,980,696	49,127,208

Source: BLM 2013a; Forest Service 2013a

⁹ Butte Field Office-administered lands are not included as part of the analysis in this LUPA/EIS except as required in the cumulative effects analysis.

into the context of the larger WAFWA management zones. The BER examines each threat identified in USFWS' listing decision published on March 15, 2010. For each threat, the report summarizes the current scientific understanding of various impacts on GRSG populations and habitats. When available, patterns, thresholds, indicators, metrics, and measured responses that quantify the impacts of each specific threat are reported. Data from the BER are presented throughout this chapter to illuminate the location (e.g., PPH and PGH), magnitude, and extent of the threats within each WAFWA management zone that comprises the planning area.

Because the BER focuses on threats to GRSG at the WAFWA management zone (or range-wide) scale, it provides biologically meaningful data for larger-scale analyses, such as the cumulative effects analysis for GRSG in **Chapter 4**.

Chapter 3 also presents data that are available at a finer scale than used in the BER's larger-scale, WAFWA management zone focus. These fine-scale, local data are incorporated into the affected environment discussion to complement the BER's biologically meaningful data, characterize the relative contributions of threats in the planning area versus the WAFWA management zones, and to set the stage for the cumulative effects analysis for GRSG (**Chapter 4**). However, it should be noted that the tables presented in the Regional Context discussions of each Chapter 3 resource and resource use discussion are from the BER (Manier et al. 2013) and extend outside of the planning area to WAFWA management zone boundaries. Those tables present information for the WAFWA management zones that would be affected by the decisions made in this sub-regional EIS.

3.1.1 Organization of Chapter 3

Certain types of resources that may be present in the LUPA planning area, such as cave and karst resources, are not addressed in this LUPA because issues relating to the management of these resources were not identified during scoping by the public, or by the BLM or Forest Service as relevant to GRSG, or they are not included in the planning area (e.g., coal). Information from broad-scale assessments was used to help set the context for the planning area. The information and direction for BLM and Forest Service resources and resource uses has been further broken down into fine-scale assessments and information. The level of information presented in this chapter is commensurate with and sufficient to assess potential effects discussed in **Chapter 4**, based on the alternatives presented in **Chapter 2**.

The following resources and resource uses are specifically addressed in **Chapter 3** and **Chapter 4**, of the Idaho and Southwestern Montana Greater Sage-Grouse LUPA/EIS.

- Greater Sage-Grouse
- Vegetation (including noxious weeds; riparian and wetlands)
- Fish and wildlife
- Other special status species
- Wild horse and burro management

- Wildland fire ecology and management
- Livestock grazing
- Recreation
- Travel management
- Lands and realty
- Minerals
 - Leasable minerals
 - Locatable minerals
 - Salable minerals
 - Nonenergy leasable minerals
- Special Designations
 - Designated Wilderness/Wilderness Study Areas
 - Areas of Critical Environmental Concern
 - Research Natural Areas
 - Other special designations
- Soil resources
- Water resources
- Cultural resources and tribal interests
- Visual resources
- Lands with wilderness characteristics
- Air quality and climate change
- Social and economic conditions (including environmental justice)

Each resource section in this chapter contains a discussion of existing conditions, including trends.

- Existing conditions describe the location, extent, and current condition of the resource in the planning area in general, on BLM-administered and Forest Service-administered lands. Conditions for a resource can vary, depending on the resource. The Idaho and Southwestern Montana Sub-Region planning area contains 18,147,500 acres, regardless of land status. Within the Idaho and Southwestern Montana Sub-Region planning area, there are 15,260,200 acres of BLM-administered lands and 1,861,100 acres of Forest Service-administered lands that are managed according to the BLM and Forest Service plans being

amended by this LUPA/EIS. For each resource, a general description of the existing conditions is provided for the Idaho and Southwestern Montana Sub-Region planning area, regardless of land status. This is done to provide a regional context for the resource. More detailed discussion of the existing conditions on various scales may be provided depending on the resource topic. This is done to provide an area-specific description of the existing conditions for the resource. When possible, greater emphasis is placed on describing the existing conditions of the resource as it pertains to GRSG and their habitat.

- **Trends** identify the degree and direction of resource change between the present and some point in the past. Not all resource topics will have trends. For example, soil resources may not undergo notable resource change. If there is change, the degree and direction of resource change is characterized as moving toward or away from the current desired conditions, and the reasons for the change are identified. Trends can also be described in quantitative or qualitative terms. Identifying the trends is done to provide an understanding of how BLM and Forest Service management influences the desired condition of the resource over time. It can be difficult to analyze trends for certain resources, because changes to the resource often occur due to factors beyond the control of the BLM and Forest Service. For those resource topics that can be affected by climate change, a discussion of the effects from climate change on the resource is provided.

The BLM and Forest Service reviewed the LUPs being amended under this LUPA/EIS and other relevant information sources (such as other LUPAs, maps, and state GRSG conservation assessments) for existing conditions and trends for the resources listed above with respect to GRSG and their habitat. This affected environment information is summarized below and, where appropriate, noted when the information is incorporated by reference.

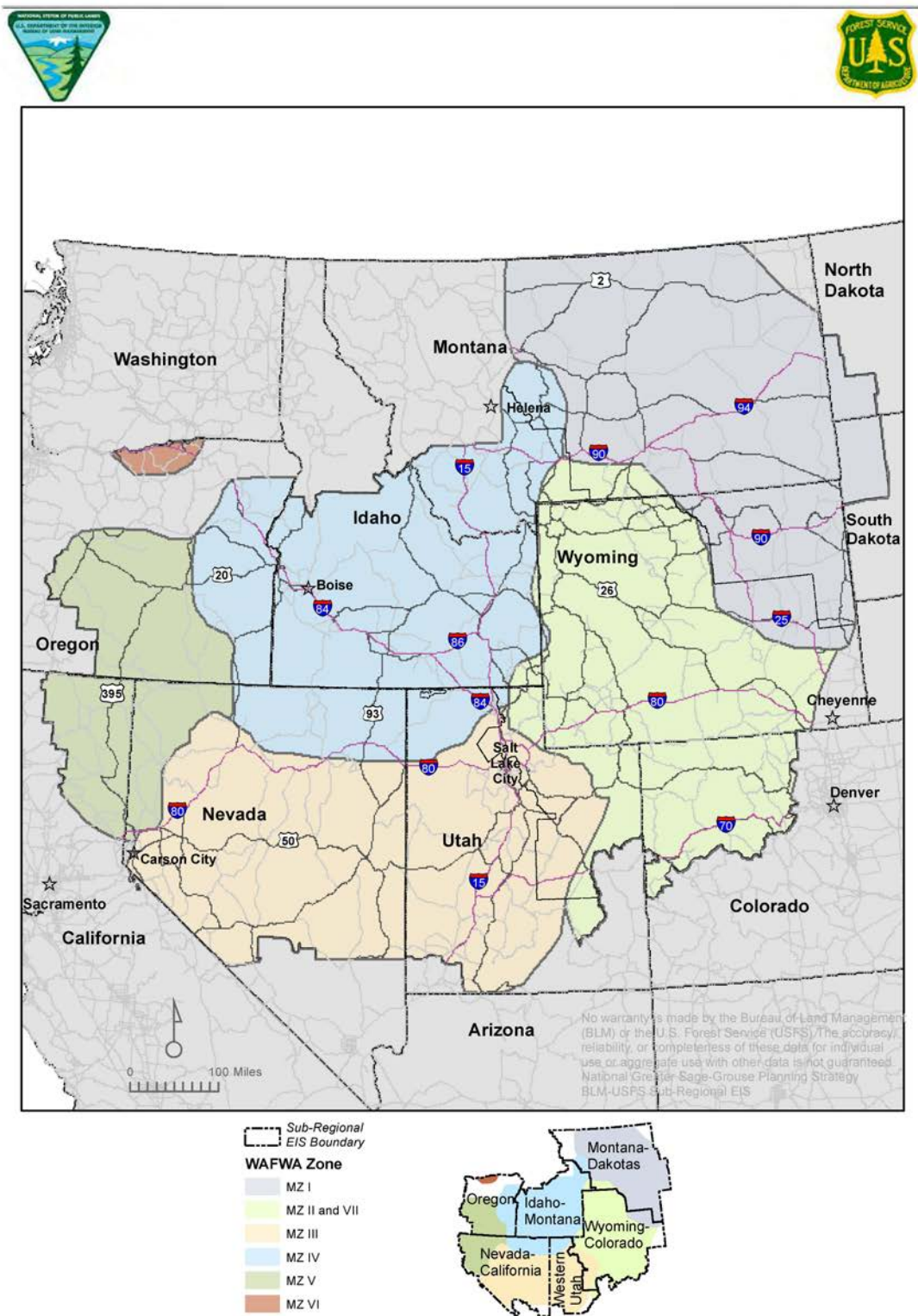
Acreage figures and other numbers used are approximate projections; readers should not infer that they reflect exact measurements or precise calculations. Acreages were calculated using Geographic Information Systems (GIS) technology, and there may be slight variations in total acres between resources.

3.2 Special Status Species – Greater Sage-Grouse

3.2.1 Conditions within the Planning Area

In 2006, the WAFWA used floristic characteristics to organize the diverse sagebrush habitat areas into seven GRSG management zones within the species' distribution (Stiver et al. 2006). The Idaho and Southwestern Montana Sub-Region contains portions of 2 of the 7 zones (MZs II and IV) (**Figure 3-1**, Western United States WAFWA Zones). The vast majority of the Idaho and Southwestern Montana Sub-Region lies within WAFWA's GRSG MZ IV (Stiver et al. 2006); a small portion of southeastern Idaho occurs within MZ II and is associated with the Wyoming Basin population. Populations of GRSG in MZ IV are projected to decline by 55 percent from 2007 to 2037 and by 66 percent in MZ II if current trends in populations and habitat activities continue (USFWS 2010a; Garton et al. 2011).

Figure 3-1
Western United States WAFWA Zones



Idaho and Southwestern Montana Sub-Region Greater Sage-Grouse LUPA/EIS
October 2013

Within the sub-region, GRSG occupy all or portions of ten populations and eight subpopulations described in Connelly et al. (2004). Two large populations (Great Basin Core and Wyoming Basin) encompass portions of Oregon, Nevada, Utah, and Wyoming that extend beyond the sub-regional boundary.

Population estimates are not available for all GRSG populations due to limited data in some areas; however, Garton et al. (2011) estimated a minimum male GRSG population in 2007 of 9,114 for the Northern Great Basin population (analogous to the Great Basin Core population and inclusive of habitats in Idaho and associated portions of Nevada, Oregon, and Utah), and 5,457 for the Snake-Salmon-Beaverhead population. Estimates for the Bannack and Red Rocks Montana populations were 304 and 448 males, respectively. GRSG in southwestern Montana are migratory, moving between separate summer and winter areas. Migratory movements of GRSG also have been documented between eastern Idaho and southwestern Montana from the Bannack and Red Rock populations. Telemetry data from 1999 to 2012 show that seasonal movements (including both distance and duration) vary significantly between groups of GRSG.

Availability of Sagebrush Habitat (Mid-Scale Indicator)

The distribution of GRSG is closely aligned with the distribution of sagebrush-dominated landscapes (Schroeder et al. 2004). Occupancy by GRSG is strongly associated with measures of sagebrush abundance and distribution. Sagebrush area was the single best discriminator between occupied and extirpated ranges among 22 variables evaluated by Wisdom et al. (2011). In the sub-region, large expanses of sagebrush still occur in portions of southwestern and south-central Idaho, in association with the Northern Great Basin population shared with Nevada, Oregon, and Utah, as well as in portions of the Snake-Salmon-Beaverhead population north of the Snake River.

In 2012, the BLM completed the range-wide delineation of PPH and PGH in cooperation with respective state wildlife agencies (see **Figure 1-4**). The BLM national office Instruction Memorandum 2012-043 defined PPH as GRSG habitat having the highest conservation value to maintaining sustainable GRSG populations. PGH includes areas of occupied seasonal or year-round habitat outside of priority habitat.

At finer scales, PPH and PGH encompass areas of intact sagebrush suitable for GRSG habitat needs as well as areas of conifer encroachment and perennial grass-dominated areas, generally occupied by GRSG or potentially suitable for future restoration.

In Idaho, PPH and PGH were identified by the BLM and Forest Service based on a model incorporating GRSG breeding bird density and lek connectivity models, informed with additional ancillary broad-scale habitat data, seasonal habitat maps, connectivity information/expert opinion, population persistence model, local priority areas, and agriculture/conifer filters (Makela and Major 2012).

In general, GRSG habitats in Idaho and the portion of the Sawtooth National Forest in northern Utah are composed of a variety of species and subspecies of sagebrush, including mountain big sagebrush, Wyoming big sagebrush, Great Basin big sagebrush, low sagebrush,

black sagebrush, three-tip sagebrush, and early sagebrush. Conifer encroachment into GRSG habitats, mainly from Utah juniper and western juniper, occurs primarily in south-central and southwestern Idaho and in northern Utah, although encroachment of Douglas-fir and other conifers also occurs at higher elevations. Large areas of native, introduced, or mixed native/introduced perennial grasslands as well as annual grasslands are also present in portions of the Snake River Plain in southern Idaho as a result of recent wildfires and associated rehabilitative efforts or from other rangeland seeding efforts during the 20th century.

In Montana, PPH was delineated based on MFWP prior modeling of GRSG Core Areas using a lek-centric model based on male lek attendance and refined with seasonal habitat, telemetry, connectivity information, and field review. Documentation for the Montana Core area analysis is summarized at:

http://www.mt.nrcs.usda.gov/technical/ecs/biology/sagegrouse/sagegrouse_strategy_attachments/appendix1.html.

Montana PGH was mapped based on the Schroeder et al. (2004) GRSG distribution map.

Sagebrush steppe habitat across southwest Montana consists of diverse species and multiple successional stages, providing for all life stages. Species or subspecies composition consists primarily of mountain big sagebrush, Wyoming big sagebrush, three-tip sagebrush, basin big sagebrush, and low sagebrush, as well as multiple other species at lower densities. These occur in mixed as well as pure stands throughout southwestern Montana. Tilling and aerial spraying over 12,000 acres in the 1960s and early 1970s (about 1 percent of BLM-administered lands in the Dillon Field Office) reduced sagebrush canopy on large areas of BLM-administered, mostly in the area inhabited by the Bannack Population. These areas were reseeded with nonnative herbaceous species that further altered natural communities. Sagebrush canopy has recovered, but the herbaceous understory composition is a mix of native species and nonnative wheat grasses. Large areas of sagebrush in the Dillon Field Office appear to provide suitable habitat for GRSG but are unoccupied.

To facilitate analysis for the Idaho and Southwestern Montana LUPA/EIS, the GRSG population areas were clipped to the Idaho and Southwestern Montana Sub-regional boundary to eliminate portions occurring outside the sub-region. Boundaries were then adjusted to encompass associated PPH and PGH. Small populations within southwestern Montana were combined into a single analysis area and, in portions of Idaho, some subpopulations were delineated separately or grouped due to similarities in threats or geography. The resulting population areas, used in the analysis below, reflect discrete geographic portions of the sub-region.

Based on GIS analysis, there are approximately 18,114,000 acres of PPH and PGH, inclusive of all landownerships, in the sub-regional analysis area (**Table 3-2**, Acres of GRSG Habitat by Population Area within the Idaho and Southwestern Montana Planning Area). This is inclusive of habitats in Idaho, southwestern Montana, and a small portion of northern Utah

Table 3-2
Acres of GRS Habitat by Population Area within the Idaho and Southwestern
Montana Planning Area

GRSG Population Area and Landownership	Acres of Habitat		
	PPH Acres	PGH Acres	Total Acres
East-Central Idaho	141,500	448,400	589,900
All Other	129,200	380,800	510,100
BLM	12,300	23,500	35,800
Forest Service	0	44,100	44,100
Mountain Valleys	3,170,600	853,700	4,024,300
All Other	814,900	315,100	1,130,000
BLM	1,876,900	197,900	2,074,800
Forest Service	478,800	340,600	819,500
SW Montana	1,368,700	1,667,600	3,036,300
All Other	739,200	1,181,400	1,920,600
BLM	458,700	243,800	702,500
Forest Service	170,800	242,400	413,200
North Side Snake	2,494,500	1,314,700	3,809,200
All Other	787,900	738,200	1,526,100
BLM	1,677,800	493,800	2,171,600
Forest Service	28,800	82,700	111,500
Southwest Idaho	2,294,500	550,100	2,844,600
All Other	498,400	122,500	620,900
BLM	1,796,100	427,700	2,223,700
Forest Service	0	0	0
South Side Snake	2,081,000	921,100	3,002,100
All Other	443,000	285,000	728,000
BLM	1,323,700	466,400	1,790,100
Forest Service	314,300	169,700	483,900
Sawtooth	0	37,600	37,600
All Other	0	16,200	16,200
Forest Service	0	21,400	21,400
Bear Lake	118,700	41,300	160,000
All Other	73,500	36,000	109,500
BLM	43,500	4,690	48,200
Forest Service	1,620	610	2,240
Weiser	262,200	347,900	610,100
All Other	184,900	211,900	396,900
BLM	77,200	135,000	212,200
Forest Service	0	970	970
Total Acres	11,931,700	6,182,300	18,114,000

Table 3-2
Acres of GRSG Habitat by Population Area within the Idaho and Southwestern Montana Planning Area

Acres of Habitat by Ownership Totals	Habitat		
	Priority	General	Total Acres of Habitat
All Other	3,671,100	3,288,300	6,959,400
BLM	7,266,500	1,993,600	9,260,100
Forest Service	994,400	904,500	1,898,900
Total Acres of Habitat	11,931,900	6,186,400	18,118,300

Source: BLM 2013a; Forest Service 2013a

administered by the Sawtooth National Forest. The BLM administers approximately 61 percent of PPH and 32 percent of PGH within the decision area. The Forest Service administers approximately 8 percent of PPH and 15 percent of PGH.

In addition, the USFWS has identified PACs in their 2013 COT report (USFWS 2013). The overlap between the USFWS PACs and the GRSG Population Areas presented in **Table 3-2** is shown in **Table 3-3**, Acres of GRSG Population Areas within PACs.

Table 3-3
Acres of GRSG Population Areas within PACs

GRSG Population Area	Within PAC (acres) ¹	Outside PAC (acres) ¹
East-Central Idaho	0	80,200
BLM	0	35,800
Forest Service	0	44,400
Mountain Valleys	2,343,000	577,100
BLM	1,893,900	191,500
Forest Service	449,100	385,600
SW Montana	629,800	485,900
BLM	458,700	243,800
Forest Service	171,100	242,100
North Side Snake	1,295,400	1,011,800
BLM	1,267,100	928,500
Forest Service	28,300	83,300
Southwest Idaho	1,859,900	521,300
BLM	1,589,900	521,300
Forest Service	0	0
South Side Snake	1,458,400	859,700
BLM	1,193,000	655,500
Forest Service	295,200	220,700
Sawtooth	0	21,400
BLM	0	0
Forest Service	0	21,400



Table 3-3
Acres of GRSG Population Areas within PACs

GRSG Population Area	Within PAC (acres)¹	Outside PAC (acres)¹
Bear Lake	42,600	7,810
BLM	41,300	6,870
Forest Service	1,300	940
Weiser	0	216,900
BLM	0	215,900
Forest Service	0	970
Outside Population Area	25,700	18,759,200
BLM	19,800	3,187,900
Forest Service	5,880	15,573,800
Total	7,414,600	22,560,300
BLM	6,463,700	5,987,100
Forest Service	950,900	16,573,200

Source: BLM 2013a; Forest Service 2013a

¹Totals may not add up exactly due to rounding convention

Predation

The GRSG is potential prey to a variety of predator species, such as the golden eagle (*Aquila chrysaetos*), ferruginous hawk (*Buteo regalis*), common raven (*Corvus corax*), American badger (*Taxidea taxus*), coyote (*Canis latrans*), red fox (*Vulpes vulpes*), weasels (*Mustela* spp.), and others (Schroeder et al. 1999; Coates 2007), but none of these species prey especially upon GRSG (Hagen 2011). Adults are susceptible to predation while on leks or nests, and eggs are vulnerable as well (Schroeder et al. 1999; Coates 2007; Hagen 2011). Predation is the most commonly identified cause of direct mortality for GRSG during all life stages (Connelly et al. 2011; USFWS 2010a citing others), but studies suggest that predation is not limiting populations (Hagen 2011). As a result, there is little scientific support for predator management over broad geographic or temporal scales (Hagen 2011).

Information on the numbers of GRSG taken by specific predators is not readily available; however, some studies report overall predation rates on age-classes, sex, and nests. Connelly et al. (2000), in a review of long-term data, reported 83 percent of male GRSG deaths and 52 percent of female deaths were attributed to predation. Gregg et al. (2007), cited in USFWS (2010a), reported mortality of GRSG chicks from predation during the first few weeks after hatching was 82 percent. Coates and Delehanty (2010) monitored 87 GRSG nests, and 42.5 percent were preyed upon. Of these nests, an increase of 1 raven per 10 km (3.86 mi) of survey transect monitored was associated with a 7.5 percent increase in the odds of nest failure. Coates (2007) documented predation at 17 GRSG nests; ravens accounted for 10 nests (59 percent) and badgers 7 nests (41 percent).

In areas where habitat is not limited and of good quality, predation is not a threat to the persistence of the species (USFWS 2010a). However, predation may limit population growth in fragmented habitats or areas where predator populations have supplemental food sources,

such as where landfills or other human factors attract and concentrate scavengers (Coates 2007), or where electrical transmission or other human-made structures facilitate nesting and perching by avian predators such as ravens (Howe 2012; Hagen 2011).

As land-management agencies, the primary role of the BLM and Forest Service is the management of habitats, land uses, and associated authorizations. Therefore, the reduction of predator effects on GRSG in this conservation strategy is best accomplished through the appropriate management, improvement, or restoration of sagebrush habitats and the siting and design of human-made structures in a way that eliminates or reduces risk from predators that may utilize them to their advantage. Direct predator control would occur under the purview of the states of Idaho and Montana and the USDA APHIS Wildlife Services, in cooperation with the USFWS.

3.2.2 Habitat Conditions and Trends

The general condition and trend of habitats on BLM- and Forest Service-administered lands varies by geographic area within the sub-region and is a result of various threats that are currently occurring or that have occurred historically.

In Idaho, threats to GRSG were ranked by an independent science panel and addressed in the *Conservation Plan for the Greater Sage-grouse in Idaho* (Idaho Sage-grouse Advisory Committee 2006). Highest ranking threats, in order of relative score, included wildfire, infrastructure, annual grasslands, livestock impacts, human disturbance, and West Nile virus. Additional habitat-associated threats of concern in portions of southern Idaho included conifer encroachment, seeded perennial grasslands, sagebrush control, urban and exurban development, and mines, landfills and gravel pits. In 2012, the Idaho Governor's Sage-Grouse Task force reiterated concerns about wildfire, invasive species and infrastructure, as well as recreation, improper livestock grazing and West Nile virus (Idaho Governor's Sage-grouse Task Force 2012). Landscape conditions and trend of BLM-administered and Forest Service-administered lands in the sub-region are summarized in **Table 3-4**, Habitat Conditions, Trends and Primary Threats to GRSG Habitat in the Idaho and Southwestern Montana Planning Area.

3.2.3 Regional Context

As stated above, the majority of the Idaho and Southwestern Montana planning area is within Management Zone IV; a small portion in the southeast is within MZ II.

Management Zone IV (Snake River Plain Management Zone)

Management Zone IV covers nearly all of Idaho's GRSG habitat, with the majority of occupied habitat within the Northern Great Basin (South Side Snake) and Snake River Plain population areas (Mountain Valleys, North Side Snake, and Southwest Idaho), as well as southwestern Montana, on both BLM-administered and Forest Service-administered lands. MZ IV also includes eastern Oregon and northern Nevada, and the Box Elder population in Utah, outside the planning area. This area supports the largest population of GRSG outside



Table 3-4
Habitat Conditions, Trends and Primary Threats to GRSG Habitat in the Idaho and Southwestern Montana Planning Area

Population Area	Existing Condition Based on Modeled Vegetation^a	Landscape Conditions and Trends on BLM-Administered Lands	Landscape Conditions and Trends on Forest Service-Administered Lands	Primary Threats^a
East-Central Idaho	<p>96% of habitat overall is 10 to 30% sagebrush cover.</p> <p>Habitat proportion in the 10 to 30% cover range by species or subspecies is as follows: Low Sagebrush 0% Mountain Big Sagebrush 97% Wyoming Big Sagebrush 92%</p>	The BLM administers a small portion of the lands, which are isolated/patchy areas of sagebrush associated with mountain sides or valleys.	Primarily dominated by Wyoming sagebrush with mountain sagebrush in some of the higher elevations; bulbous bluegrass and crested wheatgrass present in understory at many of the lower elevation sites; many of the higher elevation sites have more native understory. Disturbance to the sagebrush canopy varies by site, with some sites having mature sagebrush and others having been burned in the last 10 years. In these burned areas, there is little sagebrush cover present.	<p>Conversion of Conservation Reserve Program lands on private lands</p> <p>Human disturbance</p> <p>Infrastructure</p> <p>Isolated populations</p> <p>Lack of (or limited) information and data on GRSG</p> <p>Urban expansion and development.</p>
Mountain Valleys (Idaho)	<p>Northern valleys portion (e.g., Big Lost/, Little Lost/Pahsimeroi, Birch/Lemhi): 99% of habitat overall is 10 to 30% sagebrush cover, of mixed species or subspecies.</p>	Sagebrush habitats at both lower and higher elevations are generally intact and at lower risk of invasive species and wildfire. In the northern portion (e.g., Challis, Salmon Field Offices), understories of	<p>Higher elevation lands are typically more resilient, and generally intact.</p> <p>Sagebrush habitats are generally composed of mountain big sagebrush and low sagebrush. Understories</p>	<p>Infrastructure development, mainly transmission, poses as risk. Habitats in the Challis/Salmon portion also tend to be more linear in configuration due to the orientation of associated mountain ranges and</p>

Table 3-4
Habitat Conditions, Trends and Primary Threats to GRSG Habitat in the Idaho and Southwestern Montana Planning Area

Population Area	Existing Condition Based on Modeled Vegetation^a	Landscape Conditions and Trends on BLM-Administered Lands	Landscape Conditions and Trends on Forest Service-Administered Lands	Primary Threats^a
	Sand Creek portion: 93% of habitat overall is 10 to 30% sagebrush cover, of mixed species or subspecies.	<p>Wyoming big sagebrush habitats have shifted in some areas to predominance by Sandberg's bluegrass in past decades. Population growth is static in the absence of restoration seeding efforts. Higher elevation areas are generally intact, though these areas may be at risk of encroachment by Douglas-fir.</p> <p>In the eastern portion (Upper Snake area), mountain big sagebrush may be exceeding desired densities in some areas, although there is also concern to retain sagebrush due to losses elsewhere. In the western portion (Weiser area), there is a relatively isolated GRSG population facing threats from rapid exurban expansion, interest in gas</p>	are generally intact and include native grasses and forbs. These areas are resilient following to disturbance and resistant to annual grass invasion. Fire is less frequent than southern Idaho and is not a significant threat at this time.	valleys. Impacts from infrastructure development, roads, and other surface disturbing activities could be more concentrated as a result.

Table 3-4
Habitat Conditions, Trends and Primary Threats to GRSB Habitat in the Idaho and Southwestern Montana Planning Area

Population Area	Existing Condition Based on Modeled Vegetation ^a	Landscape Conditions and Trends on BLM-Administered Lands	Landscape Conditions and Trends on Forest Service-Administered Lands	Primary Threats ^a
		and geothermal development, and wildfire.		
SW Montana (BLM Dillon Field Office and Beaverhead National Forest)	98% of habitat overall is 10 to 30% sagebrush cover of mixed species or subspecies.	<p>High and low elevation sagebrush habitats are largely intact and at low risk of wildfire and invasive species. Diverse habitat conditions are present and are widely interspersed across various ownerships. In the southwest portion of the field office, Wyoming big and mountain big sagebrush habitats were tilled, sprayed, and or seeded with nonnative wheat grasses in the 1960s and 1970s. Sagebrush canopy has recovered but the herbaceous understory composition is a mix of native species and nonnative wheat grasses.</p> <p>There has been little disturbance in sagebrush canopy cover in the last 40 years within the field office.</p>	<p>High and low elevation sagebrush habitats are largely intact and at low risk of wildfire and invasive species. Some habitat conversion has occurred on Forest Service-administered lands but on a smaller scale. Likewise sagebrush canopy cover has recovered but the herbaceous understory composition is a mix of native species and nonnative wheat grasses.</p> <p>There has been little disturbance in sagebrush canopy cover in the last 40 years. Some loss of high elevation mountain big sagebrush habitat due to Douglas-Fir colonization occurring across all federal ownerships in southwestern Montana.</p>	<p>Wildfire (Acres lost to wildfire in the past 50 years has been minimal, but the threat is ever present.)</p> <p>Invasive plant species such as spotted knapweed, leafy spurge, hounds tongue, and some cheatgrass present a risk primarily along travel corridors.</p> <p>Conifer colonization in to sagebrush steppe habitat (primarily Douglas-fir) is a threat.</p> <p>Infrastructure/ human disturbances (fences, roads, power lines, pipelines) as well as improper grazing, habitat conversion for agricultural needs on private lands, and energy/mineral exploration and development also pose a</p>

Table 3-4
Habitat Conditions, Trends and Primary Threats to GRSB Habitat in the Idaho and Southwestern Montana Planning Area

Population Area	Existing Condition Based on Modeled Vegetation ^a	Landscape Conditions and Trends on BLM-Administered Lands	Landscape Conditions and Trends on Forest Service-Administered Lands	Primary Threats ^a
		<p>Some loss of high elevation mountain big sagebrush habitat due to Douglas-fir colonization.</p> <p>Prescribed fire treatments in the past ten years have targeted Douglas-fir colonization to restore high elevation mountain big sagebrush habitats and create a mosaic of seral conditions.</p> <p>Overall riparian and upland habitat conditions are improving due to changes in livestock management in the past ten years.</p>	Reduction in livestock over the last 10 to 15 years has also improved habitat conditions.	threat to habitat.
North Side Snake	<p>74% of habitat overall is 10-30% sagebrush cover.</p> <p>Habitat proportion in the 10-30% cover range by species or subspecies is as follows: Low Sagebrush 100%</p>	Substantial portions of the Big Desert and Minidoka Desert areas have burned in the past two decades due to large scale, fast-moving wildfires. Some large areas of sagebrush still exist in the western and northern portions but are at risk of	N/A. Minimal Forest Service-administered lands involved.	<p>Wildfire poses a significant risk to all habitats in the area.</p> <p>Cheatgrass in lower elevation habitats is at risk of advancing or proliferating following wildfire.</p>

Table 3-4
Habitat Conditions, Trends and Primary Threats to GRSB Habitat in the Idaho and Southwestern Montana Planning Area

Population Area	Existing Condition Based on Modeled Vegetation ^a	Landscape Conditions and Trends on BLM-Administered Lands	Landscape Conditions and Trends on Forest Service-Administered Lands	Primary Threats ^a
	Mountain Big Sagebrush 86% Wyoming Big Sagebrush 59%	wildfire. Most Wyoming big sagebrush habitats are at risk of cheatgrass expansion. The trend is for continued rapid loss of large acreages of sagebrush and recent restoration efforts due to continuing wildfires.		Infrastructure development, mainly from proposed transmission lines poses a risk, generally near the fringe of PPH and PGH. There is some potential for geothermal development in portions of the Shoshone Field Office.
Southwest Idaho	56% of habitat overall is 10-30% sagebrush cover. Habitat proportion in the 10-30% cover range by species or subspecies is as follows: Low Sagebrush 84% Mountain Big Sagebrush 64% Wyoming Big Sagebrush 44%	Large, intact areas of native sagebrush are present, and contiguous with Nevada and Oregon Relatively low level of infrastructure development constitutes the largest remaining intact sagebrush area in the sub-region. Trend is that wildfires continue to impact sagebrush acreage but at a smaller scale and frequency than other areas. Juniper	N/A	Wildfire Juniper encroachment in the western portion Invasive species (cheatgrass, mainly) Infrastructure associated with proposed new transmission lines. Potential for wind energy development in higher elevations such as the Owyhee Mountains.

Table 3-4
Habitat Conditions, Trends and Primary Threats to GRSB Habitat in the Idaho and Southwestern Montana Planning Area

Population Area	Existing Condition Based on Modeled Vegetation ^a	Landscape Conditions and Trends on BLM-Administered Lands	Landscape Conditions and Trends on Forest Service-Administered Lands	Primary Threats ^a
		control efforts by BLM and others likely are not keeping pace with expansion.		Potential for geothermal energy development in the Bruneau Field Office.
South Side Snake (Includes the Sawtooth National Forest portion in Utah)	<p>55% habitat overall is 10 to 30% sagebrush cover.</p> <p>Habitat proportion in the 10 to 30% cover range by species/ subspecies is as follows:</p> <p>Low Sagebrush 64%</p> <p>Mountain Big Sagebrush 55%</p> <p>Wyoming Big Sagebrush 55%</p>	<p>Lower elevation, drier Wyoming big sagebrush habitats are fragmented heavily in many areas due to frequent large wildfires.</p> <p>Cheatgrass poses a risk in the lowest elevations.</p> <p>Higher elevation, mountain big sagebrush sites are generally in good condition.</p> <p>Portions contain large perennial grasslands pending recovery of sagebrush.</p> <p>Trend is toward continuing, rapid loss of sagebrush at relatively large scales in the western portion due to wildfire.</p>	<p>Habitats are higher elevation mountain big sagebrush, in relatively good condition; however, they are smaller, fragmented fringes of sagebrush with steeper slopes interspersed between other habitat types. High to moderate risk of near term infrastructure development due to interest in wind energy. Trend in habitat condition (sagebrush) is relatively stable due to lower frequency and smaller scales of wildfires. Conifer encroachment (Utah juniper, mainly) in portions of southern Idaho and northern Utah.</p>	<p>Wildfire poses a substantial threat. Significant acreages within the Jarbidge Field Office, in particular, have burned in the past two decades.</p> <p>High interest in wind development on higher elevation BLM-administered and Forest Service-administered lands (e.g., Cotterel, South Hills, S. Twin Falls County, and Pocatello/American Falls).</p> <p>Urban expansion; potential for oil/gas development in the Bear Lake Plateau.</p> <p>Conifer encroachment, mainly Utah juniper, in the Burley Field Office and Utah portion of Sawtooth</p>

Table 3-4
Habitat Conditions, Trends and Primary Threats to GRSG Habitat in the Idaho and Southwestern Montana Planning Area

Population Area	Existing Condition Based on Modeled Vegetation^a	Landscape Conditions and Trends on BLM-Administered Lands	Landscape Conditions and Trends on Forest Service-Administered Lands	Primary Threats^a
		Conifer encroachment (primarily Utah juniper) into sagebrush communities is of concern in the southern portion.		National Forest. Cheatgrass expansion in lower elevations (i.e., Wyoming big sagebrush).
Sawtooth	98% of habitat overall is 10 to 30% sagebrush cover of mixed species or subspecies.	N/A	Habitat is primarily higher elevation mountain big sagebrush, generally relatively good condition in the Sawtooth Valley/ headwaters of the Salmon River. Includes smaller areas of noxious weeds and/or low diversity of native forbs diversity. Long term trend in areas is downward due to encroachment by Douglas-fir and lodgepole pine. Sawtooth National Forest personnel occasionally observe GRSG. Last documented observation in fall 2010.	Little recent information available on the population, which is apparently isolated from other populations. Last documentation of lek attendance was of 2 male GRSG in 1993 at 1 of the 3 known leks. Conifer encroachment (Douglas-fir, lodgepole pine). Potential concerns with domestic sheep grazing and native forb diversity. Noxious and invasive weeds.

Table 3-4
Habitat Conditions, Trends and Primary Threats to GRSB Habitat in the Idaho and Southwestern Montana Planning Area

Population Area	Existing Condition Based on Modeled Vegetation^a	Landscape Conditions and Trends on BLM-Administered Lands	Landscape Conditions and Trends on Forest Service-Administered Lands	Primary Threats^a
Bear Lake (Idaho portion)	99% of habitat overall is 10 to 30% sagebrush cover, of mixed species or subspecies.	Relatively small area of southeastern Idaho; Sagebrush is largely intact in many areas. Patchy landownership.	The Forest Service administers a limited amount of sagebrush habitat in the Idaho portion of the Bear Lake population area, totaling about 1,391 acres. The majority (1,037 acres) is over 30% canopy cover; the remainder is 10 to 30%. Wyoming sagebrush transitions to mountain big sagebrush at higher elevations. Sagebrush communities are largely intact with little to moderate amounts of cheatgrass in understory.	Some potential for oil/gas development; urban expansion, infrastructure
Weiser	72% of habitat overall is 10 to 30% sagebrush cover. Habitat proportion in the 10 to 30% cover range by species or subspecies is a follows: Low Sagebrush 78%	Sagebrush is largely intact in portions. There are some annual and perennial grasslands in the periphery due to wildfires. Landownership is patchy.	N/A	Exurban development, infrastructure, wildfire; invasive annual grasses

Table 3-4
Habitat Conditions, Trends and Primary Threats to GRSG Habitat in the Idaho and Southwestern Montana Planning Area

Population Area	Existing Condition Based on Modeled Vegetation ^a	Landscape Conditions and Trends on BLM-Administered Lands	Landscape Conditions and Trends on Forest Service-Administered Lands	Primary Threats ^a
	Mountain Big Sagebrush 71% Wyoming Big Sagebrush 71%			
Butte Field Office This area of BLM-administered land is within the sub-regional boundary but Land Use Plans are not being amended.	Not modeled	Historically, the species was present but breeding has not been documented since 1992. Habitat (sagebrush stands) is widely dispersed and separated, lacking the expansiveness or landscape extent needed for GRSG. The Big Belts are an isolated mountain range on the east side of the Missouri River adjacent to Canyon Ferry reservoir. Foothills are drier with scattered Rocky Mountain juniper and limber pine and a variety of shrubs on some sites. At the lowest elevations the habitat is dominated by grasslands and scattered big sagebrush.	Timber harvest has occurred throughout this area, particularly on the north end. There are high road densities in some locations. Fire suppression has led to an increase in forest density and high insect populations as well as colonization of shrublands by juniper and Douglas-fir. The area is dominated by livestock grazing. Many private ranches have sold and subdivided their land.	Habitat fragmentation from urban development and roads. Wildfire Douglas-fir and juniper colonization of sagebrush stands. Invasive species (mainly Dalmatian toadflax, spotted knapweed, and leafy spurge) Livestock grazing Fences Potential oil and gas development from Birch Creek to Deep Creek, in the Mount Baldy area and the

Table 3-4
Habitat Conditions, Trends and Primary Threats to GRSG Habitat in the Idaho and Southwestern Montana Planning Area

Population Area	Existing Condition Based on Modeled Vegetation^a	Landscape Conditions and Trends on BLM-Administered Lands	Landscape Conditions and Trends on Forest Service-Administered Lands	Primary Threats^a
		Many of these habitats have been converted to dry land grain production and irrigated cropland		Horseshoe Hills.

Source: Idaho Sage-grouse Advisory Committee 2006; Idaho Governor's Sage-grouse Task Force 2012; Montana Sage-Grouse Work Group 2005; BLM 2006

of the Wyoming Basin and has high connectivity between populations, though small populations such as Weiser and East-Central Idaho are at risk of fragmentation (USFWS 2013). This MZ population is moderately vulnerable, with a 10.5 percent chance of falling below 200 males by 2037 (Garton et al. 2011). The area has a long history of agricultural land use, which has left the residual sagebrush ecosystem drier than the historical condition (Manier et al. 2013). Across this MZ, 63 percent of land is federally managed. Primary threats include wildfire, infrastructure development, and invasive weeds (USFWS 2013). Fire risk is high across 81 percent of the region, and cheatgrass high risk areas are widespread (Manier et al. 2013). Though oil and gas development potential is low, geothermal energy potential is high along with development of utility infrastructure in designated corridors, such as Gateway West (Manier et al. 2013).

Management Zone II (Wyoming Basin Management Zone)

Management Zone II in Idaho is located in the southeastern part of the state. It covers the portion of the Wyoming Basin (Bear Lake) population area within Idaho. The Wyoming Basin population area stretches into Colorado and Utah and has the highest abundance of GRSG relative to other management zones across GRSG range (more than 20,000 males), one of the largest areas of habitat, and the most highly connected GRSG lek network (USFWS 2013). Although long-term trends are slightly downward, populations in the Wyoming Basin are considered stable, with a 0.3 percent chance of declining below 200 males by 2037 (Garton et al. 2011). The northern portion of this MZ, including the Idaho portion, has high connectivity between habitats across the Wyoming Basin (Knick and Hanser 2011). Federal land comprises 54 percent of sagebrush habitat. The major threat to GRSG in this MZ is energy development, primarily oil and gas, in Wyoming (USFWS 2013). Impacts from infrastructure development, fire, cheatgrass spread, and improper grazing also pose threats in this region (Manier et al. 2013).

Population Metrics

Several metrics are available that provide a relative index to GRSG populations (**Table 3-5, Occupied^a Lek Metrics for GRSG Population Areas within the Idaho and Southwestern Montana Sub-Region**). While population estimates for the sub-region or population areas are not currently available, the Idaho Department of Fish and Game, the Montana Department of Fish, Wildlife, and Parks, and the Utah Division of Wildlife Resources do compile monitoring data annually for hundreds of leks. Not all population areas are monitored or surveyed with the same intensity due to logistical, financial, meteorological, physical, or staffing constraints. Even so, the leks that are surveyed do provide useful information that can help provide additional context to the description of the environment. While **Table 3-5** provides a means of comparing the population areas, in some areas, lek data are very limited, and the information shown may be more a function of lower survey effort than of actual low numbers of males. Therefore, available habitat information and population indices must be considered in conservation planning for GRSG.

Two metrics that can be used to compare geographic areas are the number of occupied leks and the total maximum annual counts of males. Quantitative data are not available for females across the analysis area as monitoring is confounded by their coloration and cryptic

Table 3-5
Occupied^a Lek Metrics for GRSG Population Areas within the Idaho and Southwestern Montana Sub-Region

Population Area	Number of Occupied Leks	Proportion of Occupied Leks Within the Subregion	Average Number of Males Per Occupied Lek	Maximum Annual Total Count of Males and Proportion Relative to the Sub-Region
East-Central Idaho	12	1.3 %	6.7	92 (0.5%)
Mountain Valleys	169	18.7 %	18.6	5,125 (27.5%)
SW Montana (BLM Dillon Field Office and Beaverhead National Forest)	21	2.3 %	1.4	57 (0.3%)
North Side Snake	260	28.7 %	13.5	5,493 (29.4%)
Southwest Idaho	177	19.6 %	14.1	3,930 (21.1%)
South Side Snake (Includes the Sawtooth National Forest in Utah)	234	25.8 %	8.8	3,424 (18.3%)
Sawtooth	0	0 %	0	0 (0%)
Bear Lake	17	1.9 %	15.9	343 (1.8%)
Weiser	15	1.7 %	8.7	205 (1.1%)
TOTAL	905	100%	12.9	18,884 (100%)

^aOccupied lek is defined as exhibiting at least 2 displaying males during at least one year during the 2007-2011 baseline period. Inclusive of all landownerships.

behavior. Occupied leks in this analysis are defined as those at which at least two male GRSG have been documented displaying in at least one breeding season from 2007 to 2011. A five-year timeframe was used since not all leks are surveyed each year due to logistical constraints; therefore, using a range of several years ensures a greater proportion of leks are considered in the analysis. IDFG also uses a five-year window in defining lek occupancy (IDFG 2012). However, population areas vary greatly in size, with some, such as the Southwest Idaho, South Snake, and North Snake, being quite large, while others, such as the Weiser, Sawtooth, and Bear Lake areas, are considerably smaller. Large areas may inherently harbor a larger number of leks and males by virtue of their scale, and smaller areas may have fewer leks or males.

Within the sub-region's population area, there were 905 occupied GRSG leks in 2011, inclusive of all landownerships, based on IDFG, MFWP, Utah Department of Wildlife Resources (UDWR) and Wyoming Game and Fish Department data. Of the nine population areas in the sub-region, the Southwest Idaho, South Side Snake, and North Side Snake



population areas encompassed the largest number of occupied leks, about 74 percent, in the subregion. The total maximum annual count of males across all occupied leks within the nine population areas was 18,669. Population areas with the highest proportion of males at occupied leks, relative to the sub-region's total male count as a whole, included the North Side Snake (29.4 percent), Mountain Valleys (27.5 percent), and Southwest Idaho (21.1 percent). The Sawtooth (0.0 percent), Southwest Montana (0.3 percent), East-Central Idaho (0.5 percent), Weiser (1.1 percent), and Bear Lake (1.8 percent) harbored small proportions of the sub-region's total male count.

Another metric for comparing population areas is to calculate the average number of males per occupied lek. Average annual maximum number of males per occupied lek in the subregion between 2007 and 2011 was 12.9. Population areas with the highest average maximum male attendance per lek were the Mountain Valleys (18.6), Bear Lake (15.9), and Southwest Idaho (14.1) population areas. The lowest average number of males per lek occurred in the Sawtooth (0.0), Southwest Montana (1.4), and East-Central Idaho (6.7) population areas. In the relatively isolated Sawtooth population area, GRSG have been observed by Forest Service personnel as recently as fall 2010 (Garwood 2013), but the last documented lek activity (2 males) at any of the three known leks was in 1993 (Idaho Department of Fish and Game 2012).

From both a regional and rangewide perspective, the South Side Snake and Southwest Idaho population areas are especially important to long-term conservation of GRSG in Management Zone IV. This is because they comprise a substantial portion of the Great Basin core population (Connelly et al. 2004), shared with Nevada, Utah, and Oregon, this is one of the two remaining major population strongholds in the range of the species. The North Side Snake and Mountain Valleys provide additional and substantial population contributions within Idaho. The latter also provides known connectivity with the Southwest Montana population area.

Several other population areas, albeit relatively less substantial in terms of certain population metrics, are nonetheless important to conservation. The Bear Lake, Southwest Montana, and Weiser population areas provide known or potential connectivity with GRSG in the adjacent states of Wyoming, Utah, Idaho, and Oregon. GRSG in these three population areas, as well as in East-Central Idaho and the Sawtooth, may also be somewhat more vulnerable to human disturbances or habitat loss due to comparatively smaller population indices or smaller geographic extent. The Sawtooth and East-Central Idaho population areas are also limited in terms of available lek data; therefore, the associated population metrics shown in **Table 3-5** may be conservative.

3.3 Vegetation

The composition and distribution of plant communities in the planning area are influenced by many factors, including climate, elevation, topography, soils, drought, insects, fire, cultivation, invasive plants, and livestock grazing. As a result, a wide variety of plant communities occur, many of which play a role in providing seasonal or year-round habitat for GRSG. The major plant communities providing GRSG habitat are further detailed below. These plant communities vary greatly in their relative ecological health as a result of

stressors that influence the distribution and abundance of the plant components within the general community. GRSG are a sagebrush obligate species and rely on a variety of sagebrush dominated communities to meet various needs throughout their lifecycle (Miller et al. 2011). In winter, GRSG feed almost exclusively on sagebrush leaves (Patterson 1952; Wallestad et al. 1975). A healthy vegetative understory complete with perennial grasses and a variety of forbs provide important components of nesting and brood rearing habitat (Barnett and Crawford 1994; Gregg et al. 1994). These vegetative communities also support a wide variety of insects which provide additional food sources for rearing habitat. Some plant communities play a role in seasonal habitat such as riparian areas, or in the case of annual grasses, or conifer stands, may influence the quality and abundance of habitat over time.

3.3.1 Conditions within the Planning Area

Northern Sagebrush-Steppe

Two major sagebrush communities that provide GRSG habitat occur within the planning area: the Snake River Plain and Wyoming Basin. The Snake River Plain sagebrush community makes up the vast majority of the habitat with a small portion of the Wyoming Basin community on the eastern side of the planning area. These communities are considered part of the northern sagebrush-steppe where sagebrush typically co-dominates with perennial bunchgrasses (Miller et al. 2011). Human alterations, uses, and impacts coupled with natural stressors (e.g., drought and fire) have changed the extent, condition, and distribution of sagebrush-steppe and the ecosystem services these communities provide (Meinke et al. 2009); current GRSG range is estimated to be 56 percent of distribution prior to Euro-American contact (Schroeder et al. 2004). Three of the fundamental characteristics of the sagebrush community that have been altered from prior to European contact conditions include: (1) the total area of sagebrush shrublands has been reduced; (2) the composition and structure of sagebrush communities has been changed, with increased abundance and vigor of invasive species and decreased abundance and vigor of native species; and (3) fragmentation created by roads, power-lines, fences, energy developments, urbanization, and other anthropogenic features (Connelly et al. 2004). Much of the sagebrush-steppe occurring on private lands with deeper soils has been converted to agricultural croplands (Connelly et al. 2004). Intense, historic land use in the late 19th and early 20th centuries reduced the dominance of native grasses, trampled microbiotic crusts, and encouraged expansion of Eurasian grasses (Anderson and Inouye 2001; Ponzetti et al. 2007; Root and McCune 2012). These changes are most intense at low elevations near valley floors and may have disproportionate effects on GRSG populations reliant on these habitats during critical portions of the year (Leu and Hanser 2011).

Some portions of the planning area contain relatively intact sagebrush-steppe communities. Plant communities such as these are in good to excellent ecological condition and maintain adequate forb and perennial grass in the understory to supply habitat requirements for GRSG.

Data available for analysis in this effort are limited to general overstory vegetation classes of tall shrub (e.g., basin big sagebrush, Wyoming big sagebrush, and mountain big sagebrush) and low shrub (e.g., black sagebrush and low sagebrush). This information can be further



stratified based upon landscape characteristics to approximate the relative proportion of the various types of sagebrush plant communities. Data are not widely available concerning the relative ecological health of the plant communities within the project area.

Riparian and Wetlands

Riparian vegetation includes plants that require higher amounts of available water supply than those found in adjacent upland areas and are generally associated with water courses and wet meadow areas. Riparian areas, wetlands, and wet meadows provide valuable GRSG late summer brood rearing habitat because these areas provide succulent forbs and insects later in the summer when most forbs in upland habitats have dried out and are senescent. These communities make up a small percentage of the vegetation in relation to other types but are quite important in providing the seasonal habitat mentioned.

Forest and Woodland

The conversion of sagebrush-steppe communities into conifer woodlands is a factor contributing to GRSG habitat decline in portions of the planning area. Trees increase raptor perch and nest sites, potentially making GRSG more vulnerable to predation. Conifer expansion is generally attributed to fire suppression reducing fire frequency and allowing conifers to expand into riparian areas, shrublands, and grasslands. This conversion is mostly an issue in the mountain big sagebrush types where reduced fire frequency has allowed the invasion of juniper (Utah, Rocky Mountain, or Western) and in some areas Douglas-fir and pine may be expanding into shrub habitats.

Noxious Weeds and Invasive Species

Noxious weeds and invasive species include plants listed as “noxious” by state laws and also those plants known to be altering the dynamics of native plant communities by replacing native plants through competition or altering some ecological process to the detriment of the native plant community such as in the case of annual bromes increasing fire frequency.

Specific noxious weeds causing localized impacts within the planning area include rush skeletonweed, leafy spurge, diffuse knapweed, and spotted knapweed. Although not yet well established in the planning area, yellow starthistle is known to have a similar range as cheatgrass, and many of the areas currently supporting annual grass communities could support this noxious weed. Other weeds listed as noxious occur within the planning area but are not as widespread or detrimental as those listed.

Invasion by exotic annual grass species has resulted in dramatic increases in number and frequency of fires with widespread, detrimental effects on habitat conditions (Young and Evans 1978; West and Young 2000; West and Yorks 2002; Connelly et al. 2004). Increased fire frequency typically results in removal of the sagebrush canopy in affected areas with replacement by annual species that provide little to no habitat value (Knapp 1996; Epanchin-Niell et al. 2009; Rowland et al. 2010; Baker 2011; Condon et al. 2011). Invasive annuals include numerous species of annual bromes, most notably cheatgrass (*Bromus tectorum*) as well as medusahead rye (*Taeniatherum caput-medusae*). An annual species that may be a threat in higher elevation communities providing GRSG habitat is ventenata (*Ventenata dubia*).

Wyoming sagebrush plant communities are particularly susceptible to conversion to annual grasslands after fire when the understory contains higher densities of annual grass.

Once converted to exotic annual grasses, these plant communities have crossed a threshold that precludes their returning to traditional plant community composition through normal plant succession processes. These areas are essentially lost in their ability to provide GRSG habitat unless significant investment in restoration inputs are undertaken. Even then, these projects may fail if conditions do not exist for successful establishment of desired species. The potential for cheatgrass occurrence has been modeled, which can help discern locations and habitats that have the greatest risk of cheatgrass dominance after disturbance events such as fire.

Modified Grasslands

Some portions of the planning area formerly composed of sagebrush plant communities currently support introduced perennial bunchgrasses or in some cases a mixture of introduced and native bunch grasses. These communities can include common native forbs and over time may develop a sagebrush overstory. Introduced bunchgrasses that may inhabit these areas include a numerous crested wheatgrass varieties (e.g., Fairway, Ephraim, Douglas, Nordan, and Hycrest) as well as Siberian wheatgrass and, in the case of higher precipitation zones, pubescent or intermediate wheatgrass. In some cases, nonnative grasses were seeded to increase livestock forage, but were also be better adapted in competing with and suppressing invasive annual grasses. These plant communities also provide habitat for GRSG once the overstory of sagebrush is re-established.

Permanent Conversion

Within the planning area, portions have been permanently converted to uses that preclude them from providing GRSG habitat. This includes conversion to agricultural lands as well as development or urbanization. In much of the Snake River Plain, these lands were at one time supporting sagebrush plant communities.

3.3.2 Conditions on BLM-Administered Lands

The habitat most important to BLM-administered lands in this planning effort is the overstory vegetation component. As described above, GRSG are a sagebrush obligate species, so an overstory component of sagebrush is a good indicator of potential habitat. Perennial grasslands are also an important component to track as they are still capable of providing habitat if the overstory of sagebrush is returned. Tracking the relative expansion or reduction in annual grass dominated lands is also a potential indicator of our success in protecting GRSG habitat. These broad-scale vegetation types are currently being tracked through various efforts.

Table 3-6, Acres of Vegetation Communities within PPH and PGH on BLM-Administered and Forest Service-Administered Lands within the Planning Area, details the acreages in each cover type for BLM-administered and Forest Service-administered lands within the



Table 3-6
Acres of Vegetation Communities within PPH and PGH on BLM-Administered and Forest Service-Administered Lands within the Planning Area

Vegetation Type	PGH (Forest Service)	PGH (BLM)	PGH (Total)	PPH (Forest Service)	PPH (BLM)	PPH (Total)
Sagebrush	440,400	968,600	1,409,000	657,000	5,559,900	6,216,900
Low Sagebrush	6,680	55,200	61,880	15,500	751,700	767,200
Mixed Sagebrush	301,000	307,200	608,200	454,300	1,869,300	2,323,600
Tall Sagebrush	132,700	606,200	738,900	187,200	2,938,900	3,126,100
Perennial Grass	17,400	421,300	438,700	22,100	855,900	878,000
Annual Grass	190	21,100	21,290	310	51,400	51,710
Conifer Encroachment	15,100	117,900	133,000	41,100	178,600	219,700
Crested Wheatgrass	2,580	63,300	65,900	2,580	65,200	222,300

Source: BLM 2013a; Forest Service 2013a

planning area. In addition, **Table 3-6**, Acres of Vegetation Communities within PPH and PGH on BLM-Administered and Forest Service-Administered Lands within the Planning Area, through **Table 3-13**, Acres of Conifer Encroachment within PPH and PGH on BLM- and Forest Service-Administered lands within the Planning Area by GRSG Analysis Area, show the acres of vegetation communities by GRSG analysis area; these numbers were used to support the vegetation modeling effort (**Section 4.2** and **Appendix L**).

Table 3-7
Acres of Low Sagebrush within PPH and PGH on BLM- and Forest Service-Administered lands within the Planning Area by GRSG Analysis Area

GRSG Analysis Area	PGH	PPH
East-Central Idaho	30	10
BLM	30	10
Forest Service	0	0
North Side Snake	3,750	66,000
BLM	740	65,700
Forest Service	3,010	270
Southwest Idaho	33,600	354,200
BLM	33,600	354,200
Forest Service	0	0
South Side Snake	1,920	45,100
BLM	1,590	43,400
Forest Service	330	1,660
Southwest Montana	1,740	4,230
BLM	1,580	4,130
Forest Service	160	100
Bear Lake	0	0
BLM	0	0
Forest Service	0	0
Mountain Valleys	7,910	280,200
BLM	4,730	266,700
Forest Service	3,180	13,500
Weiser	12,900	17,500
BLM	12,900	17,500
Forest Service	0	0
Sawtooth	0	0
BLM	0	0
Forest Service	0	0
Total	61,900	767,100
BLM	55,200	751,600
Forest Service	6,680	15,500

Source: BLM 2013a; Forest Service 2013a



Table 3-8
Acres of Mixed Sagebrush within PPH and PGH on BLM-
and Forest Service-Administered lands within the Planning
Area by GRSG Analysis Area

GRSG Analysis Area	PGH	PPH
East-Central Idaho	0	0
BLM	0	0
Forest Service	0	0
North Side Snake	0	0
BLM	0	0
Forest Service	0	0
Southwest Idaho	0	0
BLM	0	0
Forest Service	0	0
South Side Snake	0	0
BLM	0	0
Forest Service	0	0
Southwest Montana	270,900	493,500
BLM	172,000	401,700
Forest Service	98,900	91,800
Bear Lake	4,420	41,200
BLM	4,060	40,000
Forest Service	360	1,200
Mountain Valleys	318,500	1,788,900
BLM	131,100	1,427,600
Forest Service	187,400	361,300
Weiser	0	0
BLM	0	0
Forest Service	0	0
Sawtooth	14,400	0
BLM	0	0
Forest Service	14,400	0
Total	608,300	2,323,600
BLM	307,200	1,869,300
Forest Service	301,100	454,300

Source: BLM 2013a; Forest Service 2013a

Table 3-9
Acres of Tall Sagebrush within PPH and PGH on BLM-
and Forest Service-Administered lands within the Planning
Area by GRSG Analysis Area

GRSG Analysis Area	PGH	PPH
East-Central Idaho	28,000	8,660
BLM	13,500	8,660
Forest Service	14,500	0

Table 3-9
Acres of Tall Sagebrush within PPH and PGH on BLM-
and Forest Service-Administered lands within the Planning
Area by GRSG Analysis Area

GRSG Analysis Area	PGH	PPH
North Side Snake	267,800	1,135,500
BLM	212,300	1,114,100
Forest Service	55,500	21,400
Southwest Idaho	159,900	1,146,500
BLM	159,900	1,146,500
Forest Service	0	0
South Side Snake	226,600	794,700
BLM	163,900	628,900
Forest Service	62,700	165,800
Southwest Montana	0	0
BLM	0	0
Forest Service	0	0
Bear Lake	0	0
BLM	0	0
Forest Service	0	0
Mountain Valleys	0	0
BLM	0	0
Forest Service	0	0
Weiser	56,600	40,700
BLM	56,600	40,700
Forest Service	0	0
Sawtooth	0	0
BLM	0	0
Forest Service	0	0
Total	738,900	3,126,100
BLM	606,200	2,938,900
Forest Service	132,700	187,200

Source: BLM 2013a; Forest Service 2013a

Table 3-10
Acres of Annual Grass within PPH and PGH on BLM- and
Forest Service-Administered lands within the Planning
Area by GRSG Analysis Area

GRSG Analysis Area	PGH	PPH
East-Central Idaho	80	30
BLM	80	30
Forest Service	0	0
North Side Snake	7,150	6,860
BLM	7,070	6,860
Forest Service	80	0

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Table 3-10
Acres of Annual Grass within PPH and PGH on BLM- and
Forest Service-Administered lands within the Planning
Area by GRSG Analysis Area

GRSG Analysis Area	PGH	PPH
Southwest Idaho	6,540	19,200
BLM	6,540	19,200
Forest Service	0	0
South Side Snake	4,830	24,600
BLM	4,720	24,300
Forest Service	110	310
Southwest Montana	0	0
BLM	0	0
Forest Service	0	0
Bear Lake	0	0
BLM	0	0
Forest Service	0	0
Mountain Valleys	0	0
BLM	0	0
Forest Service	0	0
Weiser	2,720	1,050
BLM	2,720	1,050
Forest Service	0	0
Sawtooth	0	0
BLM	0	0
Forest Service	0	0
Total	12,300	51,700
BLM	12,100	51,400
Forest Service	190	310

Source: BLM 2013a; Forest Service 2013a

Table 3-11
Acres of Perennial Grass within PPH and PGH on BLM-
and Forest Service-Administered lands within the Planning
Area by GRSG Analysis Area

GRSG Analysis Area	PGH	PPH
East-Central Idaho	480	10
BLM	430	10
Forest Service	50	0
North Side Snake	158,900	346,000
BLM	156,900	344,100
Forest Service	1,980	1,930
Southwest Idaho	53,100	78,900
BLM	53,100	78,900
Forest Service	0	0

Table 3-11
Acres of Perennial Grass within PPH and PGH on BLM-
and Forest Service-Administered lands within the Planning
Area by GRSG Analysis Area

GRSG Analysis Area	PGH	PPH
South Side Snake	191,400	418,000
BLM	178,700	400,200
Forest Service	12,700	17,800
Southwest Montana	4,170	600
BLM	2,450	540
Forest Service	1,720	60
Bear Lake	0	520
BLM	0	520
Forest Service	0	0
Mountain Valleys	2,380	29,600
BLM	1,390	27,300
Forest Service	990	2,340
Weiser	28,300	4,460
BLM	28,300	4,460
Forest Service	0	0
Sawtooth	20	0
BLM	0	0
Forest Service	20	0
Total	438,800	878,100
BLM	421,300	856,000
Forest Service	17,500	22,100

Source: BLM 2013a; Forest Service 2013a

Table 3-12
Acres of Crested Wheatgrass within PPH and PGH on
BLM- and Forest Service-Administered lands within the
Planning Area by GRSG Analysis Area

GRSG Analysis Area	PGH	PPH
East-Central Idaho	190	10
BLM	30	10
Forest Service	160	0
North Side Snake	42,800	37,000
BLM	40,750	36,900
Forest Service	2,010	90
Southwest Idaho	2,540	950
BLM	2,540	950
Forest Service	0	0
South Side Snake	15,900	28,000
BLM	15,500	25,400
Forest Service	410	2,500

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Table 3-12
Acres of Crested Wheatgrass within PPH and PGH on
BLM- and Forest Service-Administered lands within the
Planning Area by GRSG Analysis Area

GRSG Analysis Area	PGH	PPH
Southwest Montana	0	0
BLM	0	0
Forest Service	0	0
Bear Lake	0	0
BLM	0	0
Forest Service	0	0
Mountain Valleys	0	0
BLM	0	0
Forest Service	0	0
Weiser	4,480	2,020
BLM	4,480	2,020
Forest Service	0	0
Sawtooth	0	0
BLM	0	0
Forest Service	0	0
Total	65,900	67,900
BLM	63,300	65,300
Forest Service	2,580	2,590

Source: BLM 2013a; Forest Service 2013a

Table 3-13
Acres of Conifer Encroachment within PPH and PGH on
BLM- and Forest Service-Administered lands within the
Planning Area by GRSG Analysis Area

GRSG Analysis Area	PGH	PPH
East-Central Idaho	270	10
BLM	170	10
Forest Service	100	0
North Side Snake	1,260	2,120
BLM	510	1,860
Forest Service	750	260
Southwest Idaho	99,100	108,400
BLM	99,100	108,400
Forest Service	0	0
South Side Snake	28,100	105,300
BLM	16,200	65,700
Forest Service	11,900	39,600
Southwest Montana	910	430
BLM	410	210
Forest Service	500	220

Table 3-13
Acres of Conifer Encroachment within PPH and PGH on
BLM- and Forest Service-Administered lands within the
Planning Area by GRSG Analysis Area

GRSG Analysis Area	PGH	PPH
Bear Lake	0	10
BLM	0	10
Forest Service	0	0
Mountain Valleys	2,380	3,370
BLM	840	2,380
Forest Service	1,540	990
Weiser	740	110
BLM	740	110
Forest Service	0	0
Sawtooth	320	0
BLM	0	0
Forest Service	320	0
Total	133,100	219,800
BLM	118,000	178,700
Forest Service	15,100	41,100

Source: BLM 2013a; Forest Service 2013a

3.3.3 Conditions on Forest Service-Administered Lands

In general the plant communities and disturbance factors that influence them are the same on Forest Service-administered lands as on BLM-administered lands. As a general rule, the Forest Service-administered lands with GRSG habitat in the planning area tend to be on the higher end of the precipitation and elevational gradient. Therefore, the relative proportion of sagebrush plant communities on Forest Service-administered lands would be higher for the mountain big sagebrush plant communities, at the higher elevation and precipitation gradient, and lower for Wyoming big sagebrush plant communities which occur at the lower end of the precipitation range for big sagebrush. Due to the more resilient nature of mountain big sagebrush communities after disturbance, it is less likely they will be impacted by invasive annual grass and convert to annual grass plant communities.

3.3.4 Trends

The main disturbance factors with the potential to alter vegetation providing GRSG habitat over a majority of the planning area include conversion to annual grassland following fire disturbance, modification of plant communities due to livestock grazing, and the potential impacts of climate change. To a lesser extent, some permanent conversion to agriculture or urbanization may occur, but typically these areas are already highly disturbed and not likely to be providing high-quality GRSG habitat.



3.4 Fish and Wildlife

3.4.1 Terrestrial Wildlife

Conditions within the Planning Area

The BLM and Forest Service manage wildlife habitat, and the state wildlife management agencies manage wildlife populations. These habitats reflect the influence of a variety of past and ongoing human activities and disturbances, resulting in increases in some species populations, declines in others, and the modification of large blocks of habitat. These habitats and the wildlife species that rely on them rarely exist solely on BLM-administered or Forest Service-administered lands, and often extend across administrative boundaries to other federal, state, and private lands. Further information regarding wildlife on Forest Service-administered lands is provided in **Appendix M** and **Appendix N**.

3.4.2 Regional Context

Table 3-14, Acres of Conifer and Pinyon-Juniper Land Cover within GRSG Habitat, through **Table 3-16**, Acres of Cropland within GRSG Habitat, display acreages for different kinds of vegetative cover in the planning area (Manier et al. 2013).

Table 3-14
Acres of Conifer and Pinyon-Juniper Land Cover within GRSG Habitat

Surface Management Agency	Acres within PGH ¹			Acres within PPH ¹		
	Planning Area	MZ II/VII ²	MZ IV	Planning Area	MZ II/VII ²	MZ IV
BLM	174,700	595,500	311,300	397,300	499,700	938,700
Forest Service	191,200	62,300	228,100	150,900	18,200	248,200
Tribal and Other Federal	10,400	88,400	11,100	7,700	77,100	10,000
Private	143,700	545,800	295,200	157,400	373,000	427,500
State	40,700	97,800	69,600	56,100	106,600	67,700
Other	2,900	700	2,900	6,400	1,700	6,400

Source: Manier et al. 2013

¹Includes acres of pinyon-juniper or conifer land cover within 120 meters of GRSG habitat.

² Note: BER combined acres for MZs II and VII

Table 3-15
Acres of Cheatgrass Potential within GRSG Habitat

Surface Management Agency	Acres ¹ within PGH			Acres ¹ within PPH		
	Planning Area	MZ II/VII ²	MZ IV	Planning Area	MZ II/VII ²	MZ IV
BLM	3,053,600	6,325,000	6,234,900	8,022,500	7,091,200	13,995,500
Forest Service	885,700	407,400	1,086,900	927,100	124,100	1,521,600
Tribal and Other Federal	687,800	1,252,100	740,200	946,800	701,900	974,100
Private	2,003,400	6,202,500	4,257,400	2,045,100	5,631,600	5,643,800
State	645,800	861,400	945,500	853,200	1,135,900	1,022,900

Table 3-15
Acres of Cheatgrass Potential within GRSG Habitat

Surface Management Agency	Acres ¹ within PGH			Acres ¹ within PPH		
	Planning Area	MZ II/VII ²	MZ IV	Planning Area	MZ II/VII ²	MZ IV
Other	54,900	6,000	54,900	93,700	30,100	93,800

Source: Manier et al. 2013

¹ Acreage comprised of areas with a high potential for cheatgrass occurrence.

² Note: BER combined acres for MZs II and VII

Table 3-16
Acres of Cropland within GRSG Habitat

Surface Management Agency	Acres ¹ within PGH			Acres ¹ within PPH		
	Planning Area	MZ II/VII ²	MZ IV	Planning Area	MZ II/VII ²	MZ IV
BLM	14,200	3,200	14,500	11,800	2,100	14,800
Forest Service	1,800	300	1,800	600	0	900
Tribal and Other Federal	1,700	5,200	1,800	500	1,400	500
Private	165,500	385,900	233,600	19,400	106,100	55,200
State	2,700	7,700	4,400	700	3,300	800
Other	1,300	0	1,300	200	100	200

Source: Manier et al. 2013

¹ Based on data provided by the National Agricultural Statistics Service

² Note: BER combined acres for MZs II and VII

The BLM-administered and Forest Service-administered lands in the Idaho and Southwestern Montana planning area provide a variety of habitats. Landownership ranges from mostly sagebrush habitats in Owyhee County, Idaho, to scattered BLM-administered and Forest Service-administered lands with intermingled private and state lands composed of sagebrush habitats in southwestern Montana. On BLM-administered and Forest Service-administered lands, these habitats can be segregated into four major habitats groups: sagebrush steppe, riparian/wetlands, nonnative grasslands, and conifer woodlands/forests. These habitats serve as a basis, to the extent practical, for describing existing conditions, and for developing and comparing management alternatives throughout the planning effort.

Sagebrush Steppe Habitats

Sagebrush steppe habitats in the planning area are found in the Snake River Plain and minor portions in the Wyoming Basins floristic provinces identified by West (1983). These sagebrush habitats are the dominant habitat within the planning area. Riparian and wetland habitats, nonnative grasslands, and conifer/woodland forest habitats are interspersed within and adjacent to sagebrush habitats.



Sagebrush habitats occur from lower elevation (2,500 feet) drier salt desert shrub communities to mountain shrub communities at 10,100 feet in elevation. Sagebrush habitats support a wide diversity of generalist wildlife species, as well as sagebrush-dependent wildlife species.

At mid- to lower elevations, Wyoming big and basin sagebrush are the dominant habitat types that provide important winter habitat for wildlife species such as mule deer, pronghorn, and GRSG, and localized yearlong habitat by sagebrush-obligate species such as pygmy rabbit. Much of the basin big sagebrush habitats are limited to deeper soils near ephemeral drainages. Intermingled occurrences of basin big sagebrush, mountain big sagebrush, tall three-tip sagebrush, and several low sagebrush's such as low (little) and black sagebrush add to the diversity of vegetation and habitat structure. At higher elevations, moist mountain big sagebrush communities provide elk calving and GRSG brood-rearing habitat along with dispersed spring, summer, and fall habitat for numerous other species, often in association with conifer woodland/forested habitat. Mixed sagebrush communities and localized dominance by other sagebrush species on specific sites within the broader sagebrush types often support uniquely dependent wildlife uses, such as pygmy rabbits.

Many sagebrush steppe habitats have been modified or disturbed throughout the planning area during the past 150 years; therefore the species dependent upon them have usually been negatively affected. Primary factors causing change in sagebrush steppe habitats are wildfire and changes in fire regimes, invasive species, anthropogenic development, and livestock grazing (Miller et al. 2011, Knick et al. 2011). Wildfire and changes in fire regimes effects xeric sagebrush steppe and is highly influenced by the spread of invasive species, especially exotic annual grasses such as cheatgrass or medusahead. In these lower elevation habitats, fire return intervals are greatly shortened and prevent the reestablishment of sagebrush. Large areas of the Snake River Plain in southern Idaho have undergone these habitat changes, thus making habitats less suitable for wildlife.

Past management activities that reduce sagebrush habitats include herbicide application, plowing, or other techniques followed by seeding of nonnative perennial grasses. These land treatments or burned areas following wildfire have historically been seeded to highly competitive introduced species such as crested wheatgrass, desert wheatgrass, and Siberian wheatgrass. The characteristics that made these introduced species effective for seeding establishment also created communities dominated by near monocultures, which resulted in poor quality habitats for wildlife lacking sagebrush or forbs (Pyke 2011). Recent policies have encouraged native seed mixes, but many times native seed supplies are limited or not affordable within current budgets. Seed in some seed mixes used in these treatments may have been selected for other wildlife species and not specifically for GRSG (Knick et al. 2011).

In higher elevations of sagebrush steppe, conifer woodlands/forests have encroached into sagebrush habitats. Miller and Rose (1999) identified that the encroachment of conifer woodlands/forests was the result of longer fire return intervals that permitted woodland expansion to occur into sagebrush steppe. Conifers greater than 50 years old on productive sites and greater than 90 years on nonproductive sites results in reduced fire frequency,

permitting the establishment of conifers on the site (Burkhardt and Tisdale 1976; Bunting 1984; Miller and Rose 1999). A number of studies identified a widespread decline in fires at the sagebrush/conifer interface with the coincidence of large numbers of livestock in the late 1800s (Miller and Rose 1999; Heyerdahl et al. 2006; Swetnam et al. 2001). These large numbers of cattle may have reduced the current year's fuel loads and changed the structure and abundance of fuels, thus reducing the frequency of wildfires (Miller et al. 2011). Increased tree dominance by conifers results in a decline of cover by sagebrush and other shrubs.

Anthropogenic development has reduced the amount and quality of sagebrush steppe habitat across much of the planning area. The activities have occurred on private lands but infrastructure to support urbanization and agriculture along the Snake River Plain and other waterways has occurred on BLM-administered and Forest Service-administered lands. Many of these types of facilities or uses include railroads, roads, power lines, pipelines, irrigation canals, communication towers, military training, and off-highway vehicle use (Knick et al. 2011).

Livestock grazing is the most widespread land use across sagebrush steppe habitats from the 1880s to present. Livestock numbers and use of these habitats was greatest from the late 1880s through the 1930s. During this period the greatest change occurred to these habitats as a result of heavy livestock use and drought that resulted in loss of soil and depleted native vegetation communities that greatly impacted these habitats (Knick et al. 2011). From the 1940s until the 1980s, plowing, herbicides, and burning followed by seeding nonnative perennial grasses to increase forage for livestock production occurred, thus impacting many sagebrush habitats in southern Idaho.

In recent decades, management emphasis has shifted towards maintaining healthy, functioning native ecosystems and reducing the spread of nonnative species. Grazing regulations enacted in 1995 mandated that public land grazing allotments conform to the Fundamentals of Rangeland Health, as well as subsequent Standards and Guidelines (S&Gs), and that changes to grazing management be made if livestock management is determined to be a significant causal factor in failing to meet Fundamentals of Rangeland Health or S&Gs. Since that time, the BLM has been reviewing rangeland health conditions and modifying livestock grazing management as necessary to conform with the Fundamentals of Rangeland Health and S&Gs. In addition, vegetation treatments have occurred on many allotments in an effort to restore functionality of impacted sagebrush steppe habitats. For more information about livestock grazing, see **Section 3.8, Livestock Grazing**.

Riparian/Wetland Habitats

Riparian habitats are regarded as one of the most important habitats for wildlife due the availability of water and the structural diversity of the vegetation communities. Approximately 75 percent of all wildlife species utilize riparian habitats for at least some portion of their annual life cycle (USEPA 1990). Riparian habitats are estimated to make up approximately 1 percent of all habitats in the planning area. The riparian habitats in the planning area are composed of lotic systems that are associated with running water or lentic/wetland habitats associated with standing water.



Riparian habitats in the planning area have been subject to many activities that have affected their functionality and their ability to support wildlife. These activities include dewatering for irrigation, domestic cattle grazing, road construction, dam construction, and land treatments. The impacts from these activities include changes in plant species composition and structure, vegetative cover, sedimentation, changes in water quality and temperature, streambank alteration, and duration of available water.

Wildlife habitat values are degraded on riparian habitats with functional-at-risk or nonfunctional conditions. Information on proper functioning condition is not available at the sub-regional planning scale.

Big Game

The planning area hosts a wide variety of big game species including mule deer, pronghorn, and elk that use habitats associated with sagebrush steppe and riparian habitats. Other big game species that are found in these habitats but in lesser amounts include bighorn sheep, moose, and white-tailed deer. The planning area provides habitat for all seasonal use periods for mule deer, pronghorn, elk, bighorn sheep, and other species. These species are generally widespread across the entire planning area.

Mule deer are the most abundant and widely distributed big game animal. Mule deer populations and mule deer habitat have changed greatly during the past 100 years. Loss of shrub-steppe habitats, conversion of native landscapes to agriculture or residential development, and past and current grazing management are key management issues for mule deer populations throughout the planning area (Cox et al. 2009).

Within the planning area mule deer populations vary greatly from current population objectives. In southeast Idaho populations have undergone declines following the winters of 1992-1993 and have been slow to respond to changes in management activities (IDFG 2011a). This has resulted in IDFG developing an initiative to target this area of the state to modify management strategies and improve habitat conditions for mule deer. In other portions of the planning area, including south-central Idaho and southwestern Montana, populations appear to be stable or increasing but are below levels observed in the late 1980s and early 1990s (IDFG 2011a; MFWP 2012).

Mule deer are primarily browsers and their diet is composed mostly of leaves and twigs of shrubs, especially during the winter. Grasses and forbs are also crucial components of their diet in the spring and summer. The quality and quantity of nutritious forage in spring (April through July) has major implications on the production and survival of fawns. Summer and fall ranges are important because this is where deer produce fat reserves that will allow survival through winter. The quality of summer-fall forage also directly influences pregnancy and ovulation rates and, therefore, fawn production (Cook et al. 2001; Tollefson et al. 2010; Vavra 1992). Much of Idaho's historic mule deer winter range has been developed for other uses and is now occupied by man. Residential, commercial, and industrial developments located in the foothills and at lower elevations have eliminated winter range (IDFG 2011a).

Pronghorn distribution has changed relatively little since the early 1980s but numbers have trended downward since the winters of 1993-1994 (IDFG 2011b). Pronghorn are typically associated with sagebrush habitats but readily use grasslands if there are adequate amounts of forbs (Yoakum 2004a). In sagebrush habitats, pronghorn diets consist of sagebrush and other shrubs during all seasons, but particularly in the fall and winter (Yoakum 2004a). Forbs are preferred by pronghorn when available (Yoakum 2004b). The availability of forbs in sagebrush habitats may have important implications for pronghorn because they are rich in nutritional values required for reproduction (Pyrah 1987; Yoakum 2004b). Large landscape level fires have reduced the availability of sagebrush in parts of their range. In portions of the planning area, extensive fencing has contributed to the inability of some populations to access otherwise suitable habitats. Noxious weeds, livestock grazing, and drought has also impacted current pronghorn populations and their habitat.

Elk are found throughout the planning area in sagebrush steppe and associated conifer/forested woodlands. Elk are considered generalists and are not totally dependent upon sagebrush steppe, but they do require food, water, and where hunted, hiding cover and security areas. The combination of the resources determines the distribution and number of elk within sagebrush steppe. Elk populations in the planning area are generally at or above state wildlife management agencies objectives (IDFG 2011c; MFWP 2004).

Other big game species, such as moose, bighorn sheep, and white-tailed deer are also found in the planning area. Moose and white-tailed deer are generally associated with riparian/wetland habitats. Bighorn sheep usually are found near escape terrain composed of steep rugged slopes and make use of sagebrush steppe year round in southwest Idaho. In east-central Idaho and southwestern Montana, bighorn sheep generally make use of sagebrush steppe near escape terrain during the winter and spring.

Migratory Birds

There are numerous species of migratory birds that use the planning area during part of the year, including over 40 species of greatest conservation need in Idaho and in Montana (IDFG 2005; BLM 2006). These birds are as diverse as the Calliope hummingbird, green-tailed towhee, Brewer's sparrow, ferruginous hawk, mallard, and sandhill crane. Most of these birds are summer residents that use habitats ranging from low elevation wetlands to high elevation forests for breeding and raising young. Some species such as American robin and mallard are migratory, but small populations may be present yearlong depending on seasonal conditions. Winter residents such as the rough-legged hawk, snow buntings, and rosy-crowned gray finches arrive from arctic breeding grounds, or high elevation alpine areas to utilize winter habitats in sagebrush steppe, seasonally replacing summer residents.

The 1988 amendment to the Fish and Wildlife Conservation Act mandates the USFWS to "identify species, sub species, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act of 1973." Birds of Conservation Concern 2008 (USFWS 2008) is the most recent effort to carry out that mandate and identifies those species in greatest need of conservation action in specific geographic bird conservation regions. The planning area overlaps three bird conservation regions. These regions include the Great Basin, Northern



Rockies, and a very small portion of the Southern Rockies/Colorado Plateau. The list of species likely to inhabit sagebrush steppe and riparian/wetlands of this planning area for these three conservation regions can be found in **Appendix O**. This mandate was emphasized with the issuance of Executive Order 13186, which directs federal land management agencies to develop cooperative plans to protect and manage habitat for all migratory birds. Expansion of funding opportunities under the North American Wetlands Conservation Act and other partnership opportunities through the North American Bird Conservation Initiative will support increased management consideration for these species.

Furbearers/Upland Game/Non-Game

A large variety of other wildlife species use both sagebrush steppe, riparian/wetland habitats, and nonnative grasslands and conifer woodland/forests habitats within and adjacent to sagebrush steppe in the planning area. Furbearers commonly found in these habitats include red fox, bobcat, muskrat, beaver, and mink. River otter may be present, but the species is generally associated with larger river riparian systems. Cottontail and pygmy rabbits are found throughout the planning area and their numbers are variable as populations are cyclic (USFWS 2010b). Pygmy rabbits, a species of greatest conservation need in Idaho and southwestern Montana, are found in sagebrush habitats with relatively deep, loose soils that provide food and shelter. Upland game birds common or locally abundant in the planning area include Columbian sharp-tailed grouse, pheasant, mourning dove, chukar, gray partridge, California quail, dusky (blue) grouse, and ruffed grouse.

Many other species of nongame wildlife have limited information on their distribution or life history requirements. Information on these species is maintained by the Idaho, Montana, Utah, and Nevada Natural History Programs within each state. Site-specific inventories have not been conducted for many of the species but information about species distribution and relative abundance continues to be modified as funding becomes available. **Appendix O** identifies wildlife species likely to occur in sagebrush steppe and riparian/wetland habitats in the planning area.

Amphibians/Reptiles

Amphibians, specifically frogs and toads, have been recognized as important indicators of ecosystem health, as many populations are declining in the western US. Amphibians are generally found near some form of water. There are eight species of salamanders, frogs, and toads found in the planning area, including three species of greatest conservation need in Idaho; there are three amphibian species on the BLM special status species list in Montana (IDFG 2005; Montana Natural Heritage Program 2013). **Appendix O** identifies the species that are likely to occur in or adjacent to sagebrush habitats and riparian/wetland habitats.

There are 16 species of reptiles occurring in sagebrush habitats and riparian/wetland habitat in the planning area. These include seven lizard species, one turtle species, and eight snake species. The sagebrush lizard and short-horned lizard are two of the most common species associated with sagebrush habitats. Two snake and two reptile species found in the planning area are species of greatest conservation need in Idaho (IDFG 2005). There are no BLM special status reptile species in the southwestern Montana portion of the sub-region.

(Montana Natural Heritage Program 2013). **Appendix O** identifies the species that are likely to occur in or adjacent to sagebrush habitats.

Insects

Insect occurrence and distribution are not generally specifically considered in land management activities. Three species of insects that are identified as sensitive species due to their limited distribution occur in or immediately adjacent to sagebrush habitats. These species include Idaho pointheaded grasshopper, St. Anthony Sand Dunes tiger beetle, and Bruneau Dunes tiger beetle (See **Section 3.5**, Other Special Status Species).

Insects provide important food sources for many species of wildlife including adult and juvenile GRSG. Although there are thousands of species of insects occurring in sagebrush and riparian and wetland habitats, species in the *Scarabeidae* and *Tenebrionidae* (beetle) families, *Formicidae* (thatch ants) family, and *Orthoptera* (grasshopper) family play a crucial role in the diet of many wildlife species (including GRSG) as a high protein food source (Klebenow and Gray 1968; Peterson 1970; Johnson and Boyce 1990; Pyle 1993; Fischer 1994; Drut et al. 1994).

3.4.3 Aquatic Wildlife

Conditions within the Planning Area

Fish of interest within the planning area consist primarily of cold-water species. The condition of aquatic habitat is influenced by upland and riparian processes. Uplands influence aquatic habitat primarily through hydrologic processes. For example, the arid nature of the planning area makes the influence of groundwater on surface water particularly important. Therefore, impacts on uplands, such as compaction, that reduce water infiltration have the potential to reduce the amount of groundwater being released into streams. Water in compacted areas can pond on the surface and be lost into the atmosphere through evaporation or be delivered rapidly to channels during high flows. The amount of water and whether it enters stream channels via surface flow or subsurface flow have a significant effect on sediment delivery and deposition, streamside vegetation, and water quality. Riparian areas influence aquatic habitat more directly due to their proximity to water. For example, riparian vegetation shades streams from solar radiation which reduces increases in water temperature, and provides organic material to streams which act as a food source for aquatic macroinvertebrates. Well-vegetated floodplains dissipate energy of flood flows, provide velocity refugia for juvenile and adult fish during flood events, filter sediment during floods, and store water for release during lower flows. Fine sediment deposition within the substrate; and water quality, including, temperature, turbidity, and dissolved oxygen affect fish and fish habitat.

Aquatic habitat within the planning area includes perennial and intermittent streams, springs, lakes, and reservoirs that support fish during at least a portion of the year.

The majority of the planning area within Idaho is within the Snake River basin, while the portion of the planning area within Montana is within the Missouri River basin. The portion



of the southeast corner of Idaho is located within the Bear River basin which flows into the Great Salt Lake.

The climate throughout the planning area is generally arid, with runoff being dominated by spring snowmelt. Summer flows are provided by snowmelt, subsurface storage, and thunderstorm events. Native fish species consist primarily of salmonids, sculpin, and minnows, and suckers.

Conditions on BLM-Administered and Forest Service-Administered Lands

Fish-bearing streams, and lakes, ponds, and reservoirs within the planning area provide habitat for a variety of native and nonnative game and nongame fish species. **Table 3-17**, Native and Nonnative Fish Species Found within the Planning Area and their Status, displays the various fish species that occur within the planning area.

Table 3-17
Native and Nonnative Fish Species Found within the Planning Area and their Status

Common Name	Scientific Name	Status
Native Fish Species		
Sockeye salmon	<i>Oncorhynchus nerka</i>	ESA Endangered
Chinook salmon	<i>O. tshawytscha</i>	ESA Threatened
Steelhead	<i>O. mykiss</i>	ESA Threatened
Bull trout	<i>Salvelinus confluentus</i>	ESA Threatened
Redband trout	<i>O. mykiss gairdneri</i>	BLM Sensitive
Westslope cutthroat	<i>O. clarki lewisi</i>	BLM Sensitive
Yellowstone cutthroat	<i>O. clarki bouvieri</i>	BLM & Forest Service Sensitive
Bonneville cutthroat	<i>O. clarki utah</i>	BLM Sensitive
Bear Lake whitefish	<i>Prosopium ahyssicola</i>	BLM Sensitive
Bonneville whitefish	<i>P. spilonotus</i>	BLM Sensitive
Bonneville cisco	<i>P. gemmiferum</i>	BLM Sensitive
Big Lost River whitefish	<i>P. williamsoni</i>	Forest Service Sensitive
Mountain whitefish	<i>P. williamsoni</i>	No status
White sturgeon	<i>Acipenser transmontanus</i>	BLM Sensitive
Bear Lake sculpin	<i>Cottus extensis</i>	BLM Sensitive
Shoshone sculpin	<i>C. greenei</i>	BLM Sensitive
Wood River sculpin	<i>C. leiopomus</i>	BLM Sensitive
Paiute sculpin	<i>C. beldingii</i>	No status
Shorthead sculpin	<i>C. confusus</i>	No status
Mottled sculpin	<i>C. bairdii</i>	No status
Northern leatherside chub	<i>Lepidomeda copei</i>	BLM & Forest Service Sensitive
Utah chub	<i>Gila atraria</i>	No status
Chiselmouth	<i>Acrocheilus alutaceus</i>	No status
Redside shiner	<i>Richardsonius balteatus</i>	No status
Speckled dace	<i>Rhinichthys osculus</i>	No status
Utah sucker	<i>C. ardens</i>	No status
Bluehead sucker	<i>Catostomus discobolus</i>	No status
Bridgelip sucker	<i>C. columbianus</i>	No status
Largescale sucker	<i>C. macrocheilus</i>	No status

Table 3-17
Native and Nonnative Fish Species Found within the Planning Area and their Status

Common Name	Scientific Name	Status
Mountain sucker	<i>C. platyrhynchus</i>	No status
Nonnative Fish Species		
Brook trout	<i>S. fontinalis</i>	No status
Brown trout	<i>Salmo trutta</i>	No status
Tadpole madtom	<i>Noturus gyrinus</i>	No status
Black bullhead	<i>Ameiurus melas</i>	No status
Brown bullhead	<i>A. nebulosus</i>	No status
Blue catfish	<i>Ictalurus furcatus</i>	No status
Channel catfish	<i>I. punctatus</i>	No status
Flathead catfish	<i>Pylodictis olivaris</i>	No status
Common carp	<i>Cyprinus carpio</i>	No status
Grass carp	<i>Ctenopharyngodon idella</i>	No status
Goldfish	<i>Carassius auratus</i>	No status
Eastern mosquitofish	<i>Gambusia holbrooki</i>	No status
Western mosquitofish	<i>G. affinis</i>	No status
Fathead minnow	<i>Pimephales promelas</i>	No status
Spottail shiner	<i>Notropis hudsonius</i>	No status
Green swordtail	<i>Xiphophorus hellerii</i>	No status
Guppy	<i>Poecilia reticulata</i>	No status
Black crappie	<i>Pomoxis nigromaculatus</i>	No status
White crappie	<i>P. annularis</i>	No status
Yellow perch	<i>Perca flavescens</i>	No status
Bluegill	<i>Lepomis macrochirus</i>	No status
Green sunfish	<i>L. cyanellus</i>	No status
Pumpkinseed	<i>L. gibbosus</i>	No status
Largemouth bass	<i>Micropterus salmoides</i>	No status
Smallmouth bass	<i>M. dolomieu</i>	No status
Walleye	<i>Sander vitreus</i>	No status
Muskellunge	<i>Esox masquinongy</i>	No status
Northern pike	<i>E. lucius</i>	No status
Tiger musky	<i>E. masquinongy</i> × <i>E. lucius</i>	No status
Convict cichlid	<i>Archocentrus nigrofasciatus</i>	No status
Mozambique tilapia	<i>Tilapia mossambica</i>	No status
Redbelly tilapia	<i>T. zilli</i>	No status
Oriental weatherfish	<i>Misgurnus anguillicaudatus</i>	No status

Status of Aquatic Species in the Planning Area

The following discussion on status of aquatic species focuses on native species and particularly special status species. Twelve of the seventeen special status species are salmonids, three are sculpin, one is the white sturgeon, and one is the northern leatherside chub. None of the special status species are ubiquitous across the planning area. Each



species is found in a particular portion of the planning area with some of the species being endemic to a particular water body or portion of a water body.

Three of the 12 salmonids are anadromous fish found in the BLM Challis and Salmon field offices and the Payette, Salmon-Challis, and Sawtooth national forests, and each is listed under the ESA. Snake River Basin steelhead and Snake River spring/summer-run Chinook salmon are listed as threatened under the ESA and Snake River sockeye salmon are listed as endangered under the ESA. Adults passing Lower Granite dam on the Snake River are counted for all three of these species (Columbia Basin Research 2013). The 10-year average number of adults passing Lower Granite dam from 2003 through 2012 for steelhead is 190,535, for spring/summer-run Chinook salmon is 67,241, and for sockeye salmon is 610.

Bull trout within the planning area are found in the BLM Salmon, Challis, Jarbidge, and Upper Snake field offices and the Boise, Payette, Salmon-Challis, and Sawtooth national forests, and are listed as threatened under the ESA. Bull trout in the planning area largely occupy higher elevation areas with cold water temperatures.

The native range of redband trout within the planning area is the Snake River and its tributaries up to Shoshone Falls and the upper Salmon River basin. The current distribution of redband trout has been significantly reduced relative to the historical distribution, and it is likely that across its range slightly more than 44 percent of the occupied stream miles contain redband that have been genetically altered due to extensive stocking of hatchery fish (Wild Trout Enterprises 2012). Conditions for occupied redband trout habitat across its range was rated as part of the 2012 redband trout status assessment (Wild Trout Enterprises 2012). Approximately 5 percent of habitats were judged to be in excellent condition, 27 percent were judged to be in good condition, 34 percent in fair condition, 18 percent in poor condition, and 16 percent of the occupied habitats were not rated.

Three cutthroat trout species occur within the planning area: Westslope cutthroat, Yellowstone cutthroat, and Bonneville cutthroat. In Idaho, Westslope cutthroat only occur in the Salmon River portion of the planning area, while they occur in the entire portion of the planning area within Montana. Wild Trout Enterprises (2009) estimated that Westslope cutthroat currently occupy 58 percent of the stream miles they historically occupied across their range. Conditions for occupied Westslope cutthroat habitat across its range were rated as part of the 2009 Westslope cutthroat status assessment (Wild Trout Enterprises 2009). Approximately 18 percent of habitats were judged to be in excellent condition, 41 percent were judged to be in good condition, 24 percent in fair condition, 4 percent in poor condition, and 13 percent of the occupied habitats had an unknown condition. Within the planning area, Yellowstone cutthroat occur in the Snake River system above Shoshone Falls and within the Yellowstone River system. May et al. (2007) determined that Yellowstone cutthroat currently occupy 43 percent of the stream miles they historically occupied. Conditions for occupied Yellowstone cutthroat habitat across its range were rated as part of the 2006 Westslope cutthroat status assessment (May et al. 2007). Approximately 14 percent of habitats were judged to be in excellent condition, 52 percent were judged to be in good condition, 20 percent in fair condition, 5 percent in poor condition, and 9 percent of the occupied habitats had an unknown condition. In the planning area, Bonneville cutthroat

trout only occur within the Bear River drainage in southeast Idaho. An adfluvial population occurs in Bear Lake. The range-wide status of Bonneville cutthroat improved considerably from 1980 to 2000 (Lentsch et al. 2000).

Seven of the remaining nine special status fish species are endemics. Four species, Bear Lake whitefish, Bonneville whitefish, Bonneville cisco, and Bear Lake sculpin are endemic to Bear Lake. While the Big Lost River whitefish is endemic to the Big Lost River system, the Shoshone sculpin is endemic to springs and spring creeks in the Hagerman Valley, and the Wood River sculpin is endemic to the Wood River system.

The white sturgeon occurs in the Snake River below Shoshone Falls. Their numbers have been greatly reduced largely due to the lack of passage at dams and reduced spawning habitat due to the reservoirs behind the dams. The sturgeon fishery in the Snake River is popular, but no harvest of white sturgeon is allowed.

The northern leatherside chub has a patchy distribution within the planning area. The species occupies habitat within the Goose Creek and Salt River systems. They are generally found sporadically, in low numbers, and in the presence of other minnow species, such as reidside shiners and speckled dace. The USFWS completed a status review for the species in 2011, and found that they were not warranted for listing under the ESA.

In general, the remaining fish in **Table 3-17** are more broadly distributed within the planning area. Special status aquatic mollusks are discussed in the Special Status Species section of the EIS.

3.5 Other Special Status Species

3.5.1 Conditions within the Planning Area

The list of special status species for BLM-administered lands in Idaho and the Western Montana District; the Beaverhead-Deerlodge, Boise, Caribou, Challis, Payette, Salmon, Sawtooth, and Targhee National Forests; and the Curlew National Grassland includes mammals, birds, reptiles, amphibians, fish, invertebrates, and plants (**Appendix P**). There are 383 special status species. Of these, 28 species are mammals, 51 are birds, 4 are reptiles, 8 are amphibians, 25 are fish, 21 are invertebrates, and 246 are plants.

The BLM's objectives for special status species are to conserve and recover ESA-listed species and the ecosystems on which they depend so that ESA protections are no longer needed for these species, and to initiate proactive conservation measures that reduce or eliminate threats to BLM sensitive species to minimize the likelihood of and need for listing of these species under the ESA. The BLM 6840 Manual, Special Status Species Management, sets policy for the management of candidate species and their habitat. The 6840 manual directs the BLM to undertake conservation actions for such species before listing is warranted and also to "work cooperatively with other agencies, organizations, governments, and interested parties for the conservation of sensitive species and their habitats to meet agreed on species and habitat management goals."



The BLM 6840 Manual requires the BLM to identify strategies, restrictions, management actions, and provisions necessary to conserve or recover ESA-listed species and conserve BLM sensitive species. The 6840 Manual also requires managers to determine to the extent practicable, the distribution, abundance, population condition, current threats, and habitat needs for sensitive species, and evaluate the significance of actions in conserving those species.

Similarly, Forest Service direction for threatened and endangered species is to manage habitats and activities to achieve recovery of these species so that special protection measures provided under ESA are no longer necessary. Direction for sensitive species is to develop and implement management practices to ensure that these species do not become threatened or endangered because of management actions. Additionally, the Forest Service Manual 2670 directs the Forest Service to maintain viable populations of all native and desired nonnative wildlife, fish, and plant species.

Activities within the planning area are likely to primarily affect sagebrush habitat. Areas of conifer encroachment (primarily western or Utah juniper; Douglas-fir in some limited areas) targeted for sagebrush restoration to benefit GRSG will also be affected to varying degrees depending on time and scale. Therefore, only those species that depend on sagebrush habitat or that are strongly associated with juniper will be analyzed. **Table 3-18**, Special Status Species, identifies these species, their status, and where the designations apply. There are a total of 215 special status species that depend on sagebrush habitat. Of these, 16 species are mammals, 20 are birds, 4 are reptiles, 3 are amphibians, 3 are invertebrates, and 169 are plants.

Table 3-18
Special Status Species within the Planning Area

Common Name (<i>Scientific Name</i>)	Status*	Federal Land	
		BLM	Forest Service
Mammals			
Grizzly Bear (<i>Ursus arctos</i>)	ESA Threatened	X	X
Canada Lynx (<i>Lynx canadensis</i>)	ESA Threatened	X	X
Southern Idaho Ground Squirrel (<i>Spermophilus brunneus endemicus</i>)	ESA Candidate	X	X
Gray wolf (<i>Canis lupus</i>)	BLM & Forest Service Sensitive	X	X
Pygmy rabbit (<i>Brachylagus idahoensis</i>)	BLM & Forest Service Sensitive	X	X
Piute ground squirrel (<i>Spermophilus mollis artemisiae</i>)	BLM Sensitive	X	
California bighorn sheep (<i>Ovis canadensis californiana</i>)	BLM Sensitive	X	
Rocky Mountain bighorn sheep (<i>Ovis canadensis</i>)	Forest Service Sensitive		X
Cliff chipmunk (<i>Tamias dorsalis</i>)	BLM Sensitive	X	
Uinta Chipmunk (<i>Tamias umbrinus</i>)	BLM Sensitive	X	
Merriam’s ground squirrel (<i>Spermophilus canus vigilis</i>)	BLM Sensitive	X	
Wyoming ground squirrel (<i>Spermophilus elegans nevadensis</i>)	BLM Sensitive	X	

Table 3-18
Special Status Species within the Planning Area

Common Name (<i>Scientific Name</i>)	Status*	Federal Land	
		BLM	Forest Service
Great Basin pocket mouse (<i>Perognathus parvus</i>)	BLM Sensitive	X	
Little pocket mouse (<i>Perognathus longimembris</i>)	BLM Sensitive	X	
Dark kangaroo mouse (<i>Microdipodops megacephalus</i>)	BLM Sensitive	X	
Kit fox (<i>Vulpes velox</i>)	BLM Sensitive	X	
Birds			
Greater Sage-Grouse (<i>Centrocercus urophasianus</i>)	ESA Candidate	X	X
Bald eagle (<i>Haliaeetus leucocephalus</i>)	BLM & Forest Service Sensitive	X	X
Golden eagle (<i>Aquila chrysaetos</i>)	BLM Sensitive	X	
Upland sandpiper (<i>Bartramia longicauda</i>)	BLM Sensitive	X	
Long-billed curlew (<i>Numenius americanus</i>)	BLM Sensitive	X	
Peregrine falcon (<i>Falco peregrinus anatum</i>)	BLM & Forest Service Sensitive	X	X
Prairie falcon (<i>Falco mexicanus</i>)	BLM Sensitive	X	
Ferruginous hawk (<i>Buteo regalis</i>)	BLM Sensitive	X	
Swainson's hawk (<i>Buteo swainsoni</i>)	BLM Sensitive	X	
Columbia sharp-tailed grouse (<i>Tympanuchus phasianellus columbianus</i>)	BLM & Forest Service Sensitive	X	
Mountain quail (<i>Oreotyx pictus</i>)	BLM & Forest Service Sensitive	X	X
Calliope hummingbird (<i>Stellula calliope</i>)	BLM Sensitive	X	
Loggerhead shrike (<i>Lanius ludovicianus</i>)	BLM Sensitive	X	
McCown's longspur (<i>Calcarius mcconnii</i>)	BLM Sensitive	X	
Sage sparrow (<i>Amphispiza belli</i>)	BLM Sensitive	X	
Brewer's sparrow (<i>Spizella breweri</i>)	BLM Sensitive	X	
Sage thrasher (<i>Oreoscoptes montanus</i>)	BLM Sensitive	X	
Black-throated sparrow (<i>Amphispiza bilineata</i>)	BLM Sensitive	X	
Bobolink (<i>Dolichonyx oryzivorus</i>)	BLM Sensitive	X	
Burrowing owl (<i>Athene cunicularia</i>)	BLM Sensitive	X	
Reptiles			
Mojave black-collared lizard (<i>Crotaphytus bicinctores</i>)	BLM Sensitive	X	
Longnose snake (<i>Rhinocheilus lecontei</i>)	BLM Sensitive	X	
Western ground snake (<i>Sonora semiannulata</i>)	BLM Sensitive	X	
Common garter snake (<i>Thamnophis sirtalis</i>)	BLM Sensitive	X	
Amphibians			
Western toad (<i>Bufo boreas</i>)	BLM Sensitive	X	
Woodhouse toad (<i>Bufo woodhousii</i>)	BLM Sensitive	X	
Plains spadefoot (<i>Spea bombifrons</i>)	BLM Sensitive	X	
Columbia spotted frog (<i>Rana luteiventris</i>)	BLM & Forest Service Sensitive	X	X



Table 3-18
Special Status Species within the Planning Area

Common Name (<i>Scientific Name</i>)	Status*	Federal Land	
		BLM	Forest Service
Invertebrates			
Idaho point-headed grasshopper (<i>Acrolophitus pulchellus</i>)	BLM Sensitive	X	
St. Anthony sand dunes tiger beetle (<i>Cicindela arenicola</i>)	BLM Sensitive	X	X
Bruneau Dunes tiger beetle (<i>Cicindela waynei waynei</i>)	BLM Sensitive	X	X
Plants			
Goose Creek milkvetch (<i>Astragalus anserinus</i>)	ESA Candidate	X	X
Packard's milkvetch (<i>Astragalus cusickii</i> var. <i>packardiae</i>)	ESA Candidate	X	
Christ's Indian Paintbrush (<i>Castilleja christii</i>)	ESA Candidate		X
Slickspot peppergrass (<i>Lepidium papilliferum</i>)	ESA Proposed	X	X
Cusick's horse-mint (<i>Agastache cusickii</i>)	BLM & Forest Service Sensitive	X	X
Western boneset (<i>Agertina occidentalis</i> = <i>Eupatorium occidentale</i>)	BLM & Forest Service Sensitive	X	X
Pink agoseris, Mill Creek agoseris (<i>Agoseris lackschewitzii</i>)	BLM Sensitive	X	
Aase's onion (<i>Allium aaseae</i>)	BLM Sensitive	X	
Tapertip onion (<i>Allium acuminatum</i>)	BLM & Forest Service Sensitive	X	X
Two-headed onion (<i>Allium anceps</i>)	BLM Sensitive	X	
King's angelica, Great Basin angelica (<i>Angelica kingii</i>)	BLM & Forest Service Sensitive	X	X
Coral lichen (<i>Aspicilia rogerii</i>)	BLM Sensitive	X	
Challis milkvetch (<i>Astragalus amblytropis</i>)	BLM Sensitive	X	
Lost River milkvetch (<i>Astragalus amnis-amissi</i>)	BLM Sensitive	X	
Lemhi milkvetch (<i>Astragalus aquilonius</i>)	BLM & Forest Service Sensitive	X	X
Sweetwater milkvetch (<i>Astragalus aretiodes</i> = <i>Orophaca aretioides</i>)	BLM Sensitive	X	
Mourning milkvetch (<i>Astragalus astratus</i> var. <i>inseptus</i>)	BLM Sensitive	X	
Barr's milkvetch (<i>Astragalus barrii</i>)	BLM & Forest Service Sensitive	X	X
Painted milkvetch (<i>Astragalus ceramicus</i> var. <i>apus</i>)	BLM Sensitive	X	
Stiff milkvetch, Idaho milkvetch (<i>Astragalus conjunctus</i>)	BLM Sensitive	X	
Lesser rushy milkvetch (<i>Astragalus convallarius</i> var. <i>convallarius</i> = <i>A. junciformis</i>)	BLM Sensitive	X	
Barren milkvetch (<i>Astragalus cusickii</i> var. <i>sterilis</i>)	BLM & Forest Service Sensitive	X	X
Meadow milkvetch (<i>Astragalus diversifolius</i>)	BLM Sensitive	X	
Geyer's milkvetch (<i>Astragalus geyeri</i>)	BLM Sensitive	X	
Tufted milkvetch, Plains milkvetch (<i>Astragalus gilviflorus</i>)	BLM Sensitive	X	
Starveling milkvetch (<i>Astragalus jejunus</i> var. <i>jejunus</i>)	BLM & Forest Service Sensitive	X	X

Table 3-18
Special Status Species within the Planning Area

Common Name (<i>Scientific Name</i>)	Status*	Federal Land	
		BLM	Forest Service
Mulford's milkvetch (<i>Astragalus mulfordiae</i>)	BLM & Forest Service Sensitive	X	X
Newberry's milkvetch (<i>Astragalus newberry</i> var. <i>castoreus</i>)	BLM Sensitive	X	
Picabo milkvetch (<i>Astragalus oniciformis</i>)	BLM Sensitive	X	
Wind River Astragalus (<i>Astragalus oreganus</i>)	BLM Sensitive	X	
Payson's milkvetch (<i>Astragalus paysonii</i>)	BLM & Forest Service Sensitive	X	X
Snake River milkvetch (<i>Astragalus purshii</i> var. <i>ophiogenes</i> = <i>A. ophiogenes</i>)	BLM Sensitive	X	
Bitterroot milkvetch (<i>Astragalus scaphoides</i>)	BLM & Forest Service Sensitive	X	X
Railhead milkvetch (<i>Astragalus terminalis</i>)	BLM Sensitive	X	X
Four-wing milkvetch (<i>Astragalus tetraapterus</i> = <i>A. cinerascens</i>)	BLM Sensitive	X	
Mudflat milkvetch (<i>Astragalus yoder-williamsii</i>)	BLM Sensitive	X	
Large-leaved balsamroot (<i>Balsamorhiza macrophylla</i>)	BLM & Forest Service Sensitive	X	X
King's desert grass (<i>Blepharidachne kingii</i>)	BLM & Forest Service Sensitive	X	X
Daggett rock cress (<i>Boechera demissa</i> = <i>Arabis demissa</i> var. <i>languida</i>)	BLM Sensitive	X	
Sapphire rockcress (<i>Boechera fecunda</i> = <i>Arabis fecunda</i>)	BLM & Forest Service Sensitive	X	X
Peculiar moonwort (<i>Botrychium paradoxum</i>)	BLM & Forest Service Sensitive	X	X
Blue gramma (<i>Bouteloua gracilis</i>)	BLM Sensitive	X	
Mohave brickellbush (<i>Brickellia oblongifolia</i>)	BLM Sensitive	X	
Beautiful bryum (<i>Bryum calobryoides</i>)	BLM Sensitive	X	
Fringed redmaids (<i>Calandrinia ciliata</i>)	BLM Sensitive	X	
Cusick's camas (<i>Camassia cusickii</i>)	BLM Sensitive	X	
Obscure evening primrose (<i>Camissonia andina</i> = <i>Oenothera andina</i>)	BLM Sensitive	X	
Small camissonia (<i>Camissonia parvula</i> = <i>Oenothera parvula</i>)	BLM Sensitive	X	
Winged-seed evening primrose (<i>Camissonia pterosperma</i> = <i>Oenothera pterosperma</i>)	BLM & Forest Service Sensitive	X	X
Idaho sedge (<i>Carex idaho</i> = <i>C. parryana</i> ssp. <i>Idaho</i>)	BLM & Forest Service Sensitive	X	X
Earth lichen (<i>Catapyrenium congestum</i> = <i>Heteroplacidium congestum</i>)	BLM Sensitive	X	
Mahala mat (<i>Ceanothus prostratus</i>)	BLM Sensitive	X	
Cusick's false yarrow (<i>Chaenactis cusickii</i>)	BLM Sensitive	X	
Desert pincushion (<i>Chaenactis stevioides</i>)	BLM Sensitive	X	
Birchleaf mountain-mahogany (<i>Cercocarpus montanus</i>)	BLM Sensitive	X	



Table 3-18
Special Status Species within the Planning Area

Common Name (<i>Scientific Name</i>)	Status*	Federal Land	
		BLM	Forest Service
Lanceleaf springbeauty (<i>Claytonia multiscapa</i> var. <i>flava</i> = <i>C. lanceolata</i> var. <i>multiscapa</i>)	BLM Sensitive	X	
Yellow bee plant (<i>Cleome lutea</i>)	BLM Sensitive	X	
Twisted/Alkali cleomella (<i>Cleomella plocasperma</i>)	BLM Sensitive	X	
Short-spored jelly lichen (<i>Collema curtisporum</i>)	BLM Sensitive	X	
Uinta Basin cryptantha (<i>Cryptantha breviflora</i>)	BLM Sensitive	X	
Tufted cryptantha (<i>Cryptantha caespitosa</i>)	BLM Sensitive	X	
Malheur cryptantha (<i>Cryptantha propria</i> = <i>Oreocarya propria</i>)	BLM Sensitive	X	
Miner's candle (<i>Cryptantha scoparia</i>)	BLM Sensitive	X	
Silky cryptantha (<i>Cryptantha sericea</i> = <i>Oreocarya sericea</i>)	BLM Sensitive	X	
Sepal-tooth dodder (<i>Cuscuta denticulata</i>)	BLM Sensitive	X	
Greeley's wavewing (<i>Cymopterus acaulis</i> , var. <i>greeleyorum</i>)	BLM Sensitive	X	
Ibapah springparsley (<i>Cymopterus ibapensis</i> = <i>Epallageiton ibapensis</i>)	BLM Sensitive	X	
California damasonium (<i>Damasonium californicum</i> = <i>Machaerocarpus californicus</i>)	BLM Sensitive	X	
Silver-skin lichen (<i>Dermatocarpon lorenzianum</i>)	BLM Sensitive	X	
Doublet (<i>Dimeresia howellii</i>)	BLM & Forest Service Sensitive	X	X
Bacigalupi's downingia (<i>Downingia bacigalupii</i>)	BLM Sensitive	X	
Harlequin calicoflower, Parti-color Downingia (<i>Downingia insignis</i>)	BLM Sensitive	X	
Pointed draba, Beavertip draba, Rockcress draba (<i>Draba globosa</i> = <i>D. apiculata</i>)	BLM Sensitive	X	
White false tickhead (<i>Eatonella nivea</i>)	BLM Sensitive	X	
Swamp willow-herb (<i>Epilobium palustre</i>)	BLM Sensitive	X	
Rabbitbrush goldenweed, Bloomer's goldenweed (<i>Ericameria bloomeri</i> = <i>Haplopappus bloomeri</i>)	BLM Sensitive	X	
Windward's goldenbush (<i>Ericameria discoidea</i> var. <i>winwardii</i> = <i>Ericameria winwardii</i>)	BLM Sensitive	X	
Linearleaf fleabane (<i>Erigeron linearis</i>)	BLM Sensitive	X	
Matted buckwheat (<i>Eriogonum caespitosum</i>)	BLM Sensitive	X	
Welsh's buckwheat (<i>Eriogonum capistratum</i> var. <i>welshii</i>)	BLM Sensitive	X	
Great Basin desert buckwheat (<i>Eriogonum desertorum</i>)	BLM Sensitive	X	
Hooker's buckwheat (<i>Eriogonum hookeri</i>)	BLM & Forest Service Sensitive	X	X
Calcareous buckwheat (<i>Eriogonum ochrocephalum</i> var. <i>calcareum</i>)	BLM Sensitive	X	
Packard's buckwheat (<i>Eriogonum shockleyi</i> var. <i>packardiae</i>)	BLM Sensitive	X	
Shockley's matted buckwheat (<i>Eriogonum shockleyi</i> var. <i>shockleyi</i>)	BLM Sensitive	X	

Table 3-18
Special Status Species within the Planning Area

Common Name (<i>Scientific Name</i>)	Status*	Federal Land	
		BLM	Forest Service
Railroad Canyon wild buckwheat (<i>Eriogonum soliceps</i>)	BLM Sensitive	X	
Cushion cactus/spinystar (<i>Escobaria vivipara</i> var. <i>vivipara</i> = <i>Coryphantha vivipara</i>)	BLM Sensitive	X	
White-margined wax plant (<i>Glyptopleura marginata</i>)	BLM Sensitive	X	
Spiny hopsage (<i>Grayia spinosa</i>)	BLM Sensitive	X	
Cronquist's forget-me-not (<i>Hackelia cronquistii</i> = <i>H. patens</i>)	BLM Sensitive	X	
Bug-leg goldenweed (<i>Haplopappus insecticruris</i> = <i>H. integrifolius</i>)	BLM Sensitive	X	
Prostrate huchensia (<i>Hornungia procumbens</i> = <i>Hutchinsia procumbens</i>)	BLM Sensitive	X	
Cooper's rubber-plant (<i>Hymenoxys cooperi</i> var. <i>canescens</i> = <i>Actinea canescens</i>)	BLM Sensitive	X	
Large Canadian St. John's wort (<i>Hypericum majus</i> = <i>H. canadense</i> var. <i>majus</i>)	BLM Sensitive	X	
Ballhead ipomopsis (<i>Ipomopsis congesta</i> ssp. <i>crebrifolia</i>)	BLM Sensitive	X	
Spreading gilia (<i>Ipomopsis polycladon</i> = <i>Gilia polycladon</i>)	BLM & Forest Service Sensitive	X	X
Davis' peppergrass (<i>Lepidium davisii</i> = <i>L. montanum</i>)	BLM Sensitive	X	
Thick-leaf pepperweed (<i>Lepidium integrifolium</i>)	BLM Sensitive	X	
Pryor Mountain bladderpod (<i>Lesquerella lesicii</i>)	BLM Sensitive	X	
Middle Butte bladderpod (<i>Lesquerella obdeltata</i>)	BLM Sensitive	X	
Sacajawea's bitterroot (<i>Lewisia sacajaweanae</i>)	BLM & Forest Service Sensitive	X	X
Nuttall desert-parsley (<i>Lomatium nuttallii</i>)	BLM Sensitive	X	
Packard's desert parsley (<i>Lomatium packardiae</i>)	BLM Sensitive	X	
Inch-high lupine (<i>Lupinus uncialis</i>)	BLM & Forest Service Sensitive	X	X
Torrey's desert dandelion (<i>Malacothrix torreyi</i> = <i>M. sonchoides</i> var. <i>torreyi</i>)	BLM Sensitive	X	
United blazingstar (<i>Mentzelia congesta</i>)	BLM Sensitive	X	
Smooth stickleaf (<i>Mentzelia mollis</i>)	BLM Sensitive	X	
Leafy nama (<i>Nama densum</i>)	BLM Sensitive	X	
Green needlegrass (<i>Nassella viridula</i> = <i>Stipa viridula</i>)	BLM Sensitive	X	
Rigid threadbush (<i>Nemacladus rigidus</i>)	BLM Sensitive	X	
Saint Anthony evening-primrose (<i>Oenothera psammophila</i>)	BLM Sensitive	X	
Challis crazyweed (<i>Oxytropis besseyi</i> var. <i>salmonensis</i> = <i>O. nana</i> var. <i>salmonensis</i>)	BLM Sensitive	X	
Creeping nailwort (<i>Paronychia sessiliflora</i>)	BLM & Forest Service Sensitive	X	X
Simpson's hedgehog cactus (<i>Pediocactus simpsonii</i>)	BLM Sensitive	X	
Idaho penstemon (<i>Penstemon idahoensis</i>)	BLM Sensitive	X	



Table 3-18
Special Status Species within the Planning Area

Common Name (<i>Scientific Name</i>)	Status*	Federal Land	
		BLM	Forest Service
Janish's penstemon (<i>Penstemon janishiae</i>)	BLM & Forest Service Sensitive	X	X
Lemhi beardtongue (<i>Penstemon lembiensis</i>)	BLM & Forest Service Sensitive	X	X
Short-lobed penstemon (<i>Penstemon seorsus</i>)	BLM Sensitive	X	
Indian apple, Wild Crab apple (<i>Peraphyllum ramosissimum</i>)	BLM Sensitive	X	
Spine-noded milkvetch (<i>Peteria thompsoniae</i> = <i>P. nevadensis</i>)	BLM Sensitive	X	
Obscure Phacelia (<i>Phacelia inconspicua</i>)	BLM Sensitive	X	
Malheur Yellow Phacelia (<i>Phacelia lutea</i> var. <i>calva</i>)	BLM Sensitive	X	
Least phacelia, Small-flower phacelia (<i>Phacelia minutissima</i>)	BLM Sensitive	X	
Idaho twinpod, Salmon Twin bladderpod (<i>Physaria didymocarpa</i> var. <i>lyrata</i>)	BLM Sensitive	X	
Small-flowered ricegrass (<i>Piptatherum micranthum</i> = <i>Oryzopsis micrantha</i>)	BLM & Forest Service Sensitive	X	X
Thorn skeleton weed (<i>Pleiaranthus spinosa</i> = <i>Stephanomeria spinosa</i> = <i>Lygodesmia spinosa</i>)	BLM Sensitive	X	
Platte cinquefoil (<i>Potentilla plattensis</i>)	BLM Sensitive	X	
Alkali primrose (<i>Primula alcalina</i>)	BLM Sensitive	X	
Cusick's primrose (<i>Primula cusickiana</i>)	BLM Sensitive	X	
Turtleback, Annual Brittlebrush (<i>Psathyrotes annua</i> = <i>Bulbostylis annua</i>)	BLM Sensitive	X	
Dwarf wooly-heads (<i>Psilocarphus brevissimus</i>)	BLM & Forest Service Sensitive	X	X
Beartooth large-flowered goldenweed (<i>Pyrrocoma carthamoides</i> var. <i>subsquarrosa</i> = <i>haplopappus carthamoides</i> var. <i>subsquarrosus</i>)	BLM & Forest Service Sensitive	X	X
Thinleaf goldenhead (<i>Pyrrocoma linearis</i> = <i>Haplopappus uniflorus</i> var. <i>howellii</i>)	BLM Sensitive	X	
Snake River goldenweed, Radiate goldenweed (<i>Pyrrocoma radiata</i> = <i>Haplopappus raidatus</i>)	BLM Sensitive	X	
White grouse pellet lichen (<i>Rhizoplaca idahoensis</i>)	BLM & Forest Service Sensitive	X	X
Least snapdragon (<i>Sairocarpus kingii</i>)	BLM Sensitive	X	
Silver chicken sage (<i>Sphaeromeria argentea</i>)	BLM Sensitive	X	
Lost River silene (<i>Silene scaposa</i> var. <i>lobata</i>)	BLM Sensitive	X	
Basin goldenrod (<i>Solidago spectabilis</i>)	BLM Sensitive	X	
Few-flowered goldenrod (<i>Solidago velutina</i> = <i>S. sparsifolia</i>)	BLM Sensitive	X	
White-stemmed globe-mallow (<i>Sphaeralcea munroana</i>)	BLM Sensitive	X	
Tall dropseed (<i>Sporobolus compositus</i> var. <i>compositus</i> = <i>Sporobolus asper</i>)	BLM Sensitive	X	

Table 3-18
Special Status Species within the Planning Area

Common Name (<i>Scientific Name</i>)	Status*	Federal Land	
		BLM	Forest Service
Malheur princesplume (<i>Stanleya confertiflora</i> = <i>S. annua</i> , <i>S. rara</i> , <i>S. viridiflora</i>)	BLM Sensitive	X	
Smooth buckwheat (<i>Stenogonum salsuginosum</i> = <i>Eriogonum salsuginosum</i>)	BLM Sensitive	X	
Rush aster (<i>Symphyotrichum boreale</i> = <i>Aster junciformis</i>)	BLM Sensitive	X	
American wood sage (<i>Teucrium canadense</i> var. <i>occidentale</i>)	BLM Sensitive	X	
Woven-spore lichen (<i>Texosporium sancti-jacobi</i> = <i>Cyphellium sancti-jacobi</i>)	BLM Sensitive	X	
Wavy-leaf thelypody (<i>Thelypodium repandum</i>)	BLM Sensitive	X	
Meadow pennycress (<i>Thlaspi parviflorum</i>)	BLM Sensitive	X	
Showy townsendia (<i>Townsendia florifera</i>)	BLM Sensitive	X	
Scapose townsendia (<i>Townsendia scapigera</i>)	BLM Sensitive	X	
Douglas's clover (<i>Trifolium douglasii</i>)	BLM Sensitive	X	
Owyhee clover (<i>Trifolium owyheense</i>)	BLM Sensitive	X	
Plumed clover (<i>Trifolium plumosum</i> var. <i>amplifolium</i>)	BLM & Forest Service Sensitive	X	X
Idaho range lichen (<i>Xanthoparmelia idahoensis</i>)	BLM Sensitive	X	
Sitka columbine (<i>Aquilegia formosa</i>)	Forest Service Sensitive		X
Lost River milvetch (<i>Astragalus amnis-amissi</i>)	Forest Service Sensitive		X
White Cloud milkvetch (<i>Astragalus vexilliflexus</i> var. <i>nubilus</i>)	Forest Service Sensitive		X
Beautiful Bryum (<i>Bryum calobryoides</i>)	Forest Service Sensitive		X
Centennial rabbitbrush (<i>Chrysothamnus parryi</i> ssp. <i>montanus</i>)	Forest Service Sensitive		X
Davis' wavewing (<i>Cymopterus davisii</i>)	Forest Service Sensitive		X
Douglas' biscuitroot (<i>Cymopterus douglasii</i>)	Forest Service Sensitive		X
Serpentine draba (<i>Draba oreibata</i> var. <i>serpentine</i>)	Forest Service Sensitive		X
Payson bladderpod (<i>Lesquerella paysonii</i>)	Forest Service Sensitive		X
Idaho pennycress, Stanley thlaspi (<i>Nocca idahoensis</i> var. <i>aileeniae</i>)	Forest Service Sensitive		X
Cache beardtongue (<i>Penstemon compactus</i>)	Forest Service Sensitive		X
Marsh's bluegrass (<i>Poa abbreviate</i> ssp. <i>marshii</i>)	Forest Service Sensitive		X
Tobias' saxifrage (<i>Saxifraga bryophora</i> var. <i>tobiasiae</i>)	Forest Service Sensitive		X
Tolmie's saxifrage (<i>Saxifraga tomiei</i> var. <i>ledifolia</i>)	Forest Service Sensitive		X

3.6 Wild Horse and Burro Management

The Wild Free-Roaming Horses and Burros Act of 1971, as amended by FLPMA and the Public Rangeland Improvement Act of 1978, directs the protection and management of wild horses and burros on BLM-administered and Forest Service-administered lands. Both the



BLM and Forest Service have responsibility for managing Wild and Free Roaming Horses and Burros. Under the Act, the BLM identified herd areas as places used as habitat by a herd of wild horses at the time the Act was passed. To carry out its duties under the 1971 law, the BLM periodically evaluates each herd area to determine if it has adequate food, water, cover, and space to sustain healthy and diverse wild horse and burro populations over the long-term. The areas that meet these criteria are then designated as HMAs, where horses or burros can be viably managed as a component of the BLM-administered lands. The BLM designates an appropriate management level (AML) and specifies an allowable range in horse numbers for each HMA based upon available forage and other resources necessary to sustain the horse or burro populations, as well as resource objectives and other designated uses of the BLM-administered lands.

Wild horse and burro management areas on Forest Service-administered lands are called territories. However, no active territories exist within the planning area. There are two inactive territories in Idaho on the Challis National Forest which no longer have any wild horses.

3.6.1 Conditions on BLM-Administered Lands

Within the planning area, the BLM manages six HMAs, all in the state of Idaho: four in the Boise District, one in the Twin Falls District, and one in the Idaho Falls District. Additionally, there are nine herd areas within the planning area, five of which are in southwestern Montana, and four of which are in Idaho (see **Figure 3-2**, Wild Horse and Burro Herd Management Areas and Herd Areas). The HMAs encompass approximately 361,900 acres of BLM-administered lands, and support between 424 and 617 head of horses when populations are within AML. Approximately 551 horses are on BLM-administered lands within these HMAs based upon current population estimates (**Table 3-19**, HMAs within the Planning Area).

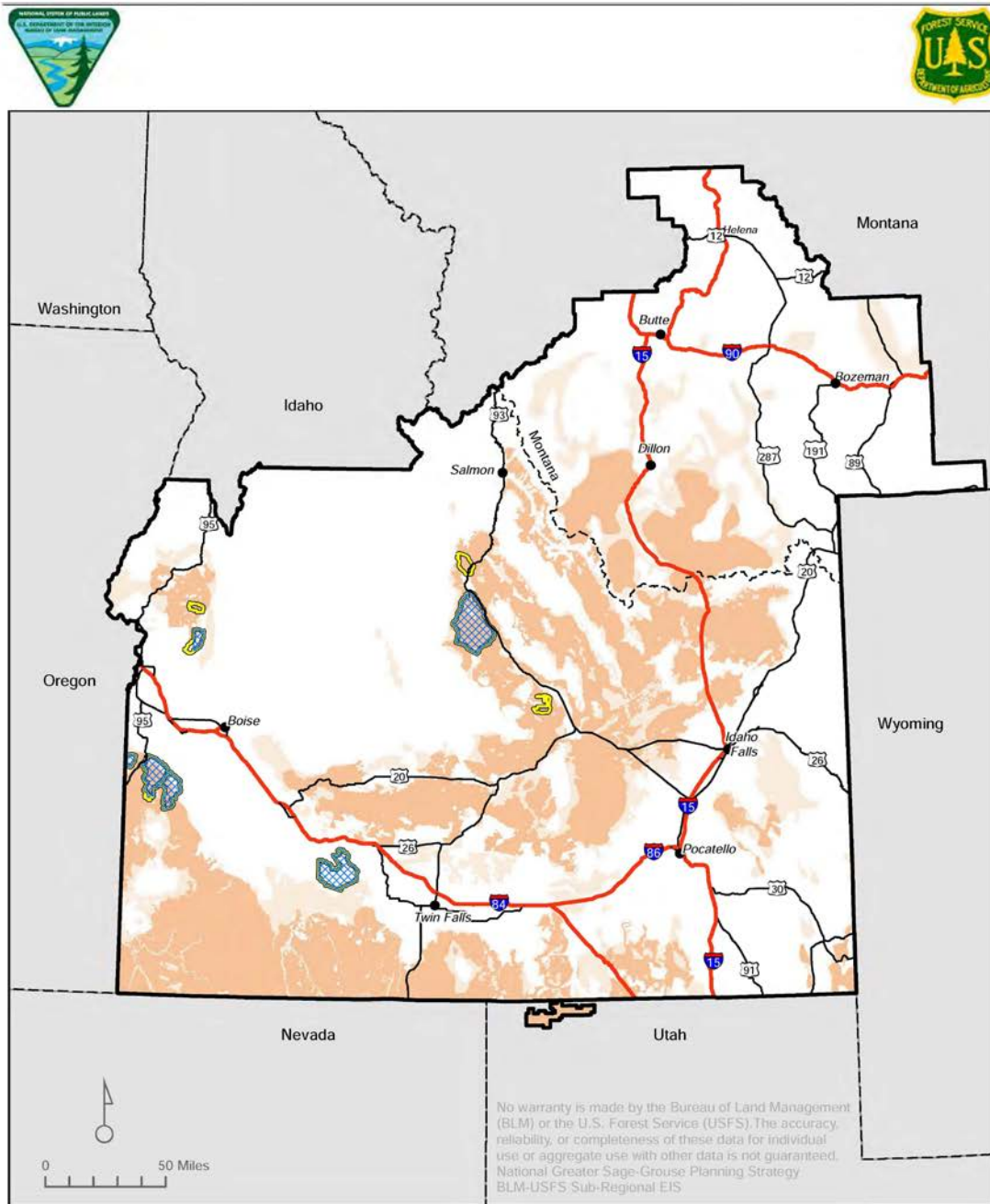
3.6.2 Conditions on Forest Service-Administered Lands

The Forest Service does not manage any wild horses or burros within the planning area.

3.6.3 Regional Context

Table 3-20, Acres of Wild Horse and Burro Areas within GRSG Habitat in the Planning Area, displays acres of wild horse and burro territories in GRSG habitat (Manier et al. 2013). In the table, data are presented by surface management agency and their occurrence within occupied habitat in the planning area.

Figure 3-2
Wild Horse and Burro Herd Management Areas and Herd Areas



- | | | |
|--------------------------------------|--|--------------------|
| Alternative B Habitat | Wild Horse and Burro Herd Management Areas | ● Major Cities |
| Preliminary Priority Management Area | Wild Horse and Burro Herd Areas | Analysis Boundary |
| Preliminary General Management Area | | Interstate highway |
| | | US highway |

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Table 3-19
HMA within the Planning Area

HMA	AML Range	Population Estimate ¹	Acres of BLM-Administered Lands within Planning Area
Black Mountain	30-60	55	38,900
Challis	185-253	185	154,300
Fourmile	60 ²	65	13,000
Hardtrigger	66-130	141	57,200
Sands Basin	33-64	65	9,500
Saylor Creek	50 ³	40	89,000

Source: Manier et al. 2013

¹Population estimates current as of November 2012

² An AML target, rather than a range, was specified for this herd by the existing LUP

³AML not established, but is currently managed for 50 horses in accordance with the 1987 Jarbidge Resource Management Plan.

Table 3-20
Acres of Wild Horse and Burro Areas within GRSG Habitat in the Planning Area

Surface Management Agency	Acres within PGH ¹			Acres within PPH ¹		
	Planning Area	MZ II/VII ²	MZ IV	Planning Area	MZ II/VII ²	MZ IV
BLM	41,300	2,007,200	601,400	228,500	1,792,900	1,177,200
Forest Service	0	0	0	0	0	0
Tribal and Other Federal	0	50,700	7,200	0	69,800	0
Private	2,300	602,400	29,100	4,400	271,200	51,900
State	3,500	74,300	4,800	14,200	83,200	15,000
Other	0	0	0	0	0	0

Source: Manier et al. 2013

¹Includes number of acres where BLM and Forest Service Wild Horse and Burro areas overlap GRSG habitat.

² Note: BER combined acres for MZs II and VII

3.7 Wildland Fire Management

The Federal Wildland Fire Management Policy was developed by the Secretaries of the Departments of the Interior and Agriculture in 1995 in response to dramatic increases in the frequency, size, and catastrophic nature of wildland fires in the US. The 2001 review and update of the 1995 Federal Wildland Fire Management Policy consists of findings, guiding principles, policy statements, and implementation actions, and replaces the 1995 Federal Wildland Fire Management Policy. Known as the 2001 Federal Wildland Fire Management Policy (DOI et al. 2001), this update recommends that federal fire management activities and programs include the following:

- Provide for firefighter and public safety
- Protect and enhance land management objectives and human welfare
- Integrate programs and disciplines
- Require interagency collaboration
- Emphasize the natural ecological role of fire
- Contribute to ecosystem sustainability

The Federal Wildland Fire Management Policy provides nine guiding principles fundamental to the success of the federal wildland fire management program and the implementation of review recommendations. These umbrella principles compel each agency to review its policies to ensure compatibility.

The wildland fire management program encompasses the full range of hazardous fuels, management of wildfire, and the rehabilitation of lands affected by wildfire.

The wildfire suppression program utilizes a coordinated effort to respond to all unplanned ignitions (wildfire) with a preplanned, appropriate response. Each response is guided by LUP and fire management plan direction. As the severity and number of wildfires escalates, the further response and prioritization of fire suppression resources becomes a collaborative effort with all management levels within BLM and Forest Service working closely with interagency partners.

Trend analysis of fire starts and acres burned in the sage steppe ecosystem is very general and dependent predominately upon weather and fuels conditions. The relative fuel conditions of live fuel moistures and fine fuel loadings coupled with weather conditions such as relative humidity, wind speed, and days since last rainfall drive large fire growth in the grass fuel type.

Fire occurrence is weighed towards human causes, especially around urban centers and along major highway corridors. However, lightning is the major contributor to multiple large fire days and high numbers of acres burned. Lightning storms generally track from southwestern towards eastern Idaho, leaving successive lightning starts across all three southern districts, often times in remote or difficult to reach areas. These lightning events are commonly associated with strong winds, which contribute to rapid large fire growth. Summer storms commonly lack significant rainfall. It should be reasonably expected that the majority of large fire days correspond to high percentile Burning Index days. Burning Index is a number related to the contribution of fire behavior to the effort of containing a fire. The Burning Index rates fire danger related to potential flame length over a fire danger rating area.

Since 2006, emphasis upon the protection of GRSG habitat during suppression actions has taken center stage in planning and operational discussions. High numbers of PPH and PGH acres were burned in 2007 and 2012. The majority of these acres were burned during



corresponding high Burning Index days or periods. Fire season generally extends from early June thru October, and large fires can be expected during that time.

Fire Regime Condition Class

Natural Fire Regime: A natural fire regime is a general classification of the role fire would play across a landscape without modern human mechanical intervention (Agee 1993; Brown 1995). The five natural fire regimes are classified based on average number of years between fires (fire frequency) combined with the severity of the fire on the dominant overstory vegetation (amount of vegetation replacement). These five regimes include:

- I – 0 to 35 year frequency and low (surface fires most common) to mixed (less than 75 percent of the dominant overstory vegetation replaced) severity
- II – 0 to 35 year frequency and high severity (greater than 75 percent of the dominant overstory vegetation replaced)
- III – 35 to 100+ year frequency and mixed severity (less than 75 percent of the dominant overstory vegetation replaced)
- IV – 35 to 100+ year frequency and high severity (greater than 75 percent of the dominant overstory vegetation replaced)
- V – 200+ year frequency and high severity (greater than 75 percent of the dominant overstory vegetation replaced)

Fire regime condition class (FRCC) is a classification of the amount of change in fire frequency and severity from the natural fire regime (Hann and Bunnell 2001). The three classes are based on low (FRCC 1), moderate (FRCC 2), and high (FRCC 3) change from the natural fire regime (Hardy et al. 2001; Schmidt et al. 2002). The change in natural fire regime results from changes to one or more of the following fire regime attributes: vegetation characteristics (e.g., species composition, structural stages, stand age, canopy closure, and mosaic pattern); fuel composition; fire frequency, severity, and pattern; and other associated disturbances (e.g., insect and disease mortality, grazing, and drought).

Characteristic vegetation and fuel conditions are considered to be those that occurred within the natural fire regime. Uncharacteristic conditions are considered to be those that did not occur within the natural fire regime. Examples of uncharacteristic conditions include invasive species (e.g., weeds, insects, and diseases) or excessive vegetation removal. The amount of change is based on comparison of the fire regime attributes as identified above to the natural fire regime. The amount of change is then classified to determine the FRCC.

3.7.1 Conditions within the Planning Area

The Hazardous Fuels Reduction Program (HFR) involves a variety of treatments to accomplish the following:

- Modify vegetation to provide for firefighter safety
- Reduce the potential of wildfire spread
- Reduce the detrimental effects of wildfire on a landscape
- Restore ecosystem resiliency
- Allow the natural role of fire on the landscape
- Protect private holdings and infrastructure
- Decrease the costs of rehabilitation efforts after a wildfire has occurred

Depending on the specifics of the overall project, multiple treatment types may be involved over several years to obtain the specifications for the project. One example of this would be: For an annual grass dominated area, prescribed fire will be used to remove existing layers of the annual grass and reduce the seed source. Chemical applications would be utilized to further reduce the seed source and the resulting new annual grass plants. Mechanical seedings of perennial (native or nonnative, grass/shrub/forb) mixtures would occur, pending the most successful time of year for applications.

Examples of treatment types include:

- **Prescribed Fire (Treatment)** – An HFR Treatment Category for any fire ignited by management actions to meet specific objectives and to achieve Fire Management objectives.
- **Mechanical (Treatment)** – An HFR Treatment Category that describes work that manually or mechanically removes or modifies fuel load structures to achieve Fire Management objectives.
- **Other (Treatment)** – An HFR Treatment Category that describes work involving the use of chemicals and biological methods to achieve Fire Management objectives.

In Idaho, the HFR Program has been in place since the start of the 2000 National Fire Plan identified the need and funding source to develop and maintain the program. Within the last 5 years, which would represent the most current treatments on the existing landscape, the following acreage and types of treatments are shown below. The prescribed fire acreages have decreased from historical levels due to multiple large scale wildfires accomplishing the removal of undesirable vegetation in areas planned for future projects. Mechanical treatments have increased in, both, seeding and mechanical reductions of conifer encroachment throughout PPH and PGH areas. The use of chemical or “Other” types of treatments has grown to increase the probability of success of seeding(s) of perennial (native or nonnative, grass/shrub/forb) mixtures by removing the dominance and competitiveness of the undesirable annual grass and weed species. Biological or “Other” treatments (insects, goat, and specific pathogens) have recently been of interest in very specific areas due to the



“high risk” in areas that may have significant values should accidents occur during implementation of mechanical treatments (e.g., rocks and windows).

3.7.2 Trends

Table 3-21, BLM Treatment Types and Acreages Over the Past Five Years, presents fuel treatment types and acreages over the past 5 years.

Table 3-21
BLM Treatment Types and Acreages Over the Past Five Years

Treatment Type	2008	2009	2010	2011	2012
Prescribed Fire	11,199 acres	8,647 acres	7,189 acres	6,398 acres	3,021 acres
Mechanical	46,073 acres	38,992 acres	33,975 acres	30,987 acres	30,725 acres
Other	59,003 acres	47,991 acres	36,500 acres	39,895 acres	71,666 acres

Source: BLM 2013a

Over the past few years, the focus of the HFR program was to treat acreages within the WUI. This was specific to protecting private in-holdings in the attempt to decrease the detrimental effects of wildfire to human structures and the associated infra-structure for the communities.

Emergency Stabilization and Rehabilitation (ESR)

Alteration to the historic fire regime has substantially reduced the sagebrush steppe communities of the Sub Unit and the larger Great Basin. The exclusion of wildfire within the upper elevations shrub steppe communities (primarily mountain big sagebrush) has converted GRSG habitat into juniper woodland.

The greatest loss of GRSG habitat however has been from cheatgrass proliferation and wildfire within the lower elevation sagebrush communities (primarily Wyoming big sagebrush). Historically, wildfire was not a common occurrence within the Wyoming big sagebrush sites. Current literature estimates the fire interval at approximately 100 years. When these sites did burn, the discontinuous fuels of the scattered native bunch grasses likely resulted in small, discontinuous fires. Conversely, cheatgrass is highly flammable due to its uniform fine fuels which dry out early in the growing season. Each recurring fire set the stage for further cheatgrass expansion, resulting in an ever increasing cheatgrass/fire cycle and loss of GRSG habitat. On many of these sites, fire-return intervals have been shortened to between 2 and 4 years (Whisenant 1990).

Lower elevation shrub steppe communities within the subunit (even those containing minimal cheatgrass understories) will cross a threshold into fire maintained cheatgrass dominated communities unless they are successfully rehabilitated within the first couple years following wildfire. Such areas are also highly susceptible to noxious weed invasions. Therefore, successfully reestablishing perennial vegetation within this narrow time frame is essential for reducing the loss of low elevation GRSG habitat.

Fire rehabilitation consists of mitigating damaging effects from wildfire and in restoring vegetative structure and function to recently burned fire damaged areas which cannot recover on their own. These efforts consist of seeding perennial grasses, shrubs, and forbs. The seeding technique is based largely on seed size. Most grasses (which have relatively large seeds) are drill seeded to effectively cover the seed, whereas sagebrush and many forbs (which consist of small seeds) are most successful broadcast seeded.

Drought and invasive annual grass competition are the two biggest challenges to reestablishing perennial vegetation following wildfire on the low elevation sites. Seedings are most successful during years of adequate precipitation and on sites where cheatgrass competition is minimal such as recently burned sagebrush stands in good condition, or sagebrush stands with cheatgrass in the understory which burned hot enough consume cheatgrass seed lying on the soil surface underneath the sagebrush canopy. Accordingly, the higher the density of sagebrush cover prior to the burn, the greater the likelihood for seedings success. Because sagebrush fires burn hotter and slower than grassland fires, the cheatgrass seed lying on the soil surface underneath the sagebrush canopy is usually consumed, whereas the seed laying outside of the sagebrush canopy or other shrub free areas (such as previously burned cheatgrass-dominated sites) is not consumed and remains viable. Accordingly, the areas underneath the burned sagebrush canopy create a cheatgrass free “clean” seedbed which allows seeded species to establish relatively free of cheatgrass competition. Although the areas outside of the canopies will remain dominated by cheatgrass, the established plants underneath the former sagebrush canopy will usually outcompete the adjacent cheatgrass over time. However, strong wind-driven fires often prevent consumption of cheatgrass seed, thereby require cheatgrass control. Seeding previously burned cheatgrass-dominated sites devoid of a brush overstory, is not usually successful because these rapid cheatgrass driven fires do not provide enough heat to consume cheatgrass seed lying on the soil surface.

Herbicides have proven to be the most effective and noninvasive method for controlling annual grasses prior to seeding. Before 1991, the use of herbicides to control invasive annual grasses was prohibited on public land. Therefore, various tilling methods such as plowing and disking were the only available options. Unfortunately, these treatments damaged remaining native vegetation and biologic soil crusts, increased site susceptibility to wind erosion and often resulted in seed being drilled too deeply, thereby opening the site for total cheatgrass domination when seedings were unsuccessful. Prescribed fire was used in attempts to kill cheatgrass seed while still on the plant. Although such fires kill some seed still on the plant, they do not burn hot enough to kill cheatgrass seed on the soil surface.

Intensive livestock grazing is often suggested for controlling cheatgrass competition. Although targeted grazing may have some applications for fuels management, it is not effective in reducing cheatgrass competition (Hempy-Mayer and Pyke 2008). During the short time when cheatgrass is highly palatable in the spring, a sufficient number of livestock cannot be concentrated on a small enough area to reduce the cheatgrass seed significantly or reduce cheatgrass seed lying on the soil surface. In addition, this type of grazing can be



detrimental to remaining perennial grasses, opening the site up for further cheatgrass expansion in the future.

The BLM and Forest Service are authorized to use various approved contact and pre-emergent herbicides for controlling invasive annual grasses. Both types of herbicides have their advantages and shortcomings.

Contact herbicides such as Glyphosate have been widely and successfully used within the Boise, Twin Falls, and Idaho Falls Districts in Idaho. These herbicides must be applied during the short period that cheatgrass is actively growing, and before seed development occurs. When numerous cheatgrass crops occur on a given year, repeated applications are required. Additionally, application rates must be tuned to minimize damage to existing perennial plants while effectively controlling the invasive annuals. Glyphosate binds quickly to soil particles and is inactivated. Unbound glyphosate is degraded by soil bacteria.

Pre-emergent herbicides such as imazapic and sulfometuron methyl are highly effective in controlling invasive annual grasses while having minimal impacts on most established perennial species. They are also classified as nontoxic to fish and wildlife. These herbicides do not require the specific application timing needed with glyphosate, and their residual action in the soil controls annual grasses whenever they happen to germinate. The residual action lasts from 1 to 3 years, depending on soil moisture, pH, and temperature. In addition to controlling invasive annual grasses prior to seeding, these herbicides could be used to help maintain and protect existing native plant communities which have been invaded with annual grasses. Such treatments would allow the natives to gain a competitive advantage over the exotic annuals, and the associated reduction in annual grass fuels would reduce the site's risk to wildfire. A limitation of these herbicides is their potential to damage crops at extremely low concentrations. Accordingly, these herbicides must be used in accordance to the label and/or other appropriate restrictions in such situations.

Recent research on naturally occurring fungi and bacteria for controlling cheatgrass is encouraging and may prove to be an effective future control method. Examples include Dooley and Beckstead's (2010) *Characterizing the interaction between a fungal seed pathogen and a deleterious rhizobacterium for biological control of cheatgrass*; Stewart's (2009) *The grass seed pathogen *Pyrenophora semeniperda* as a biological agent for annual Bromus grasses*; and Meyer et al.'s (2008). *Cheatgrass (*Bromus tectorum*) biocontrol using indigenous fungal pathogens*.

Selecting plant materials which can establish and persist in these arid cheatgrass competitive environments is essential for restoring GRSG habitat lost through wildfire. Prior to the mid-1980s, fire rehabilitation funds could not be used for sagebrush seeding. Since that time, sagebrush is included in most fire rehabilitation seedings on its respective ecological sites. Occasionally, during busy fire years, sagebrush seed shortages restrict its use to priority burned GRSG habitat.

Native grasses and forbs are preferred over introduced species when they can meet the above requirements. Historically, few adapted native grass seed was available which could persist in these desert environments, thereby requiring the use of durable introduced species

such as crested wheatgrass. Over time, selections of native blue bunch wheatgrass, basin wildrye, Snake River wheatgrass, squirreltail, Indian ricegrass, and Sandberg bluegrass have become increasingly available and are now used extensively in fire rehabilitation seedings for areas that receive at least 10 inches of annual precipitation in recently burned sagebrush communities. For the past ten years, the BLM has been funding the interagency Great Basin Native Plant Selection and Increase Project for increasing native seed availability, especially native forbs important to GRSG, and to improve the success of land managers in establishing native plants (Forest Service 2013b).

However, some important native grasses (such as Thurber's needlegrass) are still not widely available and or effective in competing with cheatgrass in the harshest environments. In these areas, durable introduced species as Siberian wheatgrass and Russian wild rye are still the only viable option. Even those species are often unsuccessful on those sites. Additionally, restoring native plant communities in repeatedly burned annual dominated grasslands has proven largely unsuccessful. Considerable speculation and research has attempted to understand why. A lack of mycorrhiza, soil nutrients, and other changes to the soil environment from years of invasive annual grass domination is believed to be at least partially responsible.

The theory of "assisted succession" is suggested as a method for ultimately restoring these areas by first vegetating with resilient introduced species to break the fire cycle, removing annual grass dominance and deplete annuals' seed source, and restore soil characteristics which may in time make the site more hospitable to restoring the native community, followed by eventual seeding with natives. Accordingly, this is a long term costly process which cannot begin to be implemented until the fire cycle has been broken. Until the majority of annual grass dominated landscapes can be rehabilitated to less fire prone species in the long-term, these short fire cycles will result in a continual loss of these investments, and in the remaining native sagebrush steppe communities.

Seeded areas require rest from livestock use to become fully established, followed by livestock management which will maintain plant health and vigor. BLM policy traditionally prescribes a minimum of two growing seasons rest from livestock grazing, and until plant establishment objectives are met. Depending on moisture and other site conditions, longer rest is often needed before grazing can be resumed. However, a true native restoration could require years of rest from grazing to become successfully established (depending on plant materials used and site characteristics). Such large-scale treatments could have significant repercussions to grazing permittees, and may also necessitate more restrictive management to maintain the native seeded species over the long term.

The ability to protect these areas from recurring wildfire is crucial to maintaining the reestablished sagebrush component. Successful fire rehabilitation seeding can contribute to this goal by changing the fuels from highly flammable annual grasses with high fuel continuity, into less-fire-prone perennial bunch grasses, which stay greener longer and which provide much less fuel continuity (Pellant 1992). Accordingly, when fire does return to these rehabilitated areas, the fires are often spotty and leave substantial unburned sagebrush



islands and a seed source for naturally reestablishing sagebrush. Additionally, the burned perennial grasses quickly re-sprout and compete effectively with annual weeds.

Also warranted is a system of effectively managed fuel breaks consisting of durable, fire-resistant vegetation, such as forage kochia, placed primarily along roads or other appropriate, strategic features. In general, vegetative fuel breaks have characteristics that disrupt fuel continuity, harbor lower fuel loads, and have lower volatile compounds and increased moisture content (Pellant 1992). Fuel breaks help provide defensible anchor points for facilitating fire suppression activities and can allow fires to be compartmentalized, ultimately reducing potential fire size.

Burned Area Emergency Response

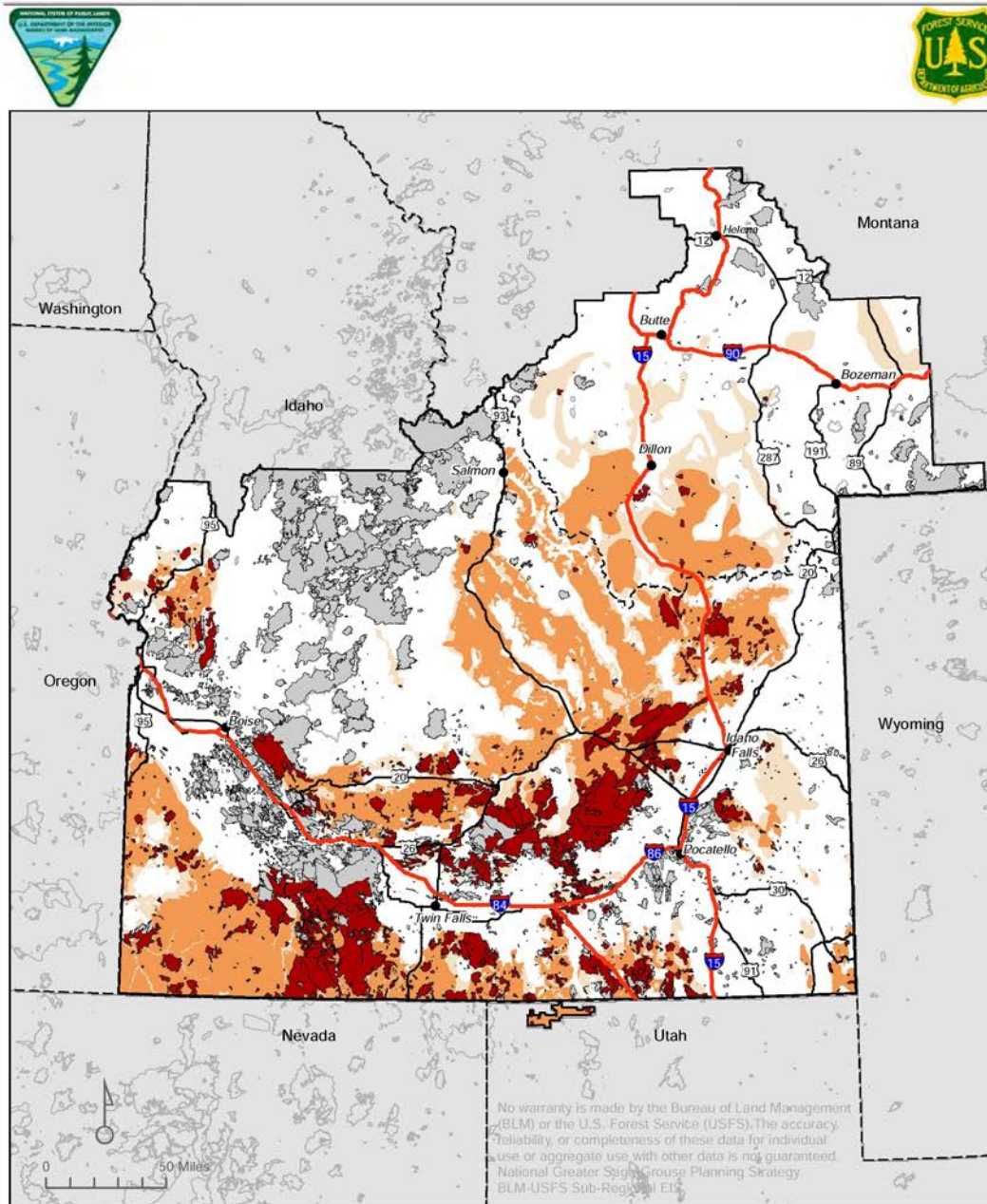
The Forest Service's Burned Area Emergency Response (BAER) program is designed to address emergency situations through its key goals of protecting life, property, and critical natural and cultural resources. The objective of the program is to determine the need for and to prescribe and implement emergency treatments on federal lands to minimize threats to life or property resulting from the effects of a fire or to stabilize and prevent unacceptable degradation to natural and cultural resources. Loss of vegetation exposes soil to erosion; runoff may increase and cause flooding, sediments may move downstream and damage houses or fill reservoirs, and put endangered species and community water supplies at risk.

BAER teams are staffed by specially trained professionals, and BAER assessments usually begin before a wildfire has been fully contained. There are a variety of emergency stabilization techniques that the BAER team might recommend. Reseeding of ground cover with quick-growing or native species, mulching with straw or chipped wood, construction of straw, rock or log dams in small tributaries, and placement of logs to catch sediment on hill slopes are the primary stabilization techniques used. The team also assesses the need to modify road and trail drainage mechanisms by installing debris traps, modifying or removing culverts to allow drainage to flow freely, adding additional drainage dips and constructing emergency spillways to keep roads and bridges from washing out during floods.

3.7.3 Regional Context

Table 3-22, Acres of Wildland Fire within GRSG Habitat, and **Table 3-23**, Acres with High Probability for Wildland Fire within GRSG Habitat, display wildland fire data for GRSG habitat in the planning area (Manier et al. 2013). **Table 3-23** also uses data from the Forest Service's fire simulator, FSim. FSim generates burn probabilities by simulating fires using historical weather data and current landcover data. **Figure 3-3**, Fire History in the Planning Area, and **Figure 3-4**, Fire Frequency in the Planning Area, illustrate fire issues in the sub-region.

Figure 3-3
Fire History in the Planning Area



- Fire History - Within Habitat 1980-2012
- Fire History - Outside Habitat 1980-2012
- National Historic Perimeters 2000-2012
- Preliminary Priority Management Area
- Preliminary General Management Area
- Analysis Boundary

Idaho and Southwestern Montana Sub-Region Greater Sage-Grouse LUPA/EIS
October 2013



Figure 3-4
Fire Frequency in the Planning Area

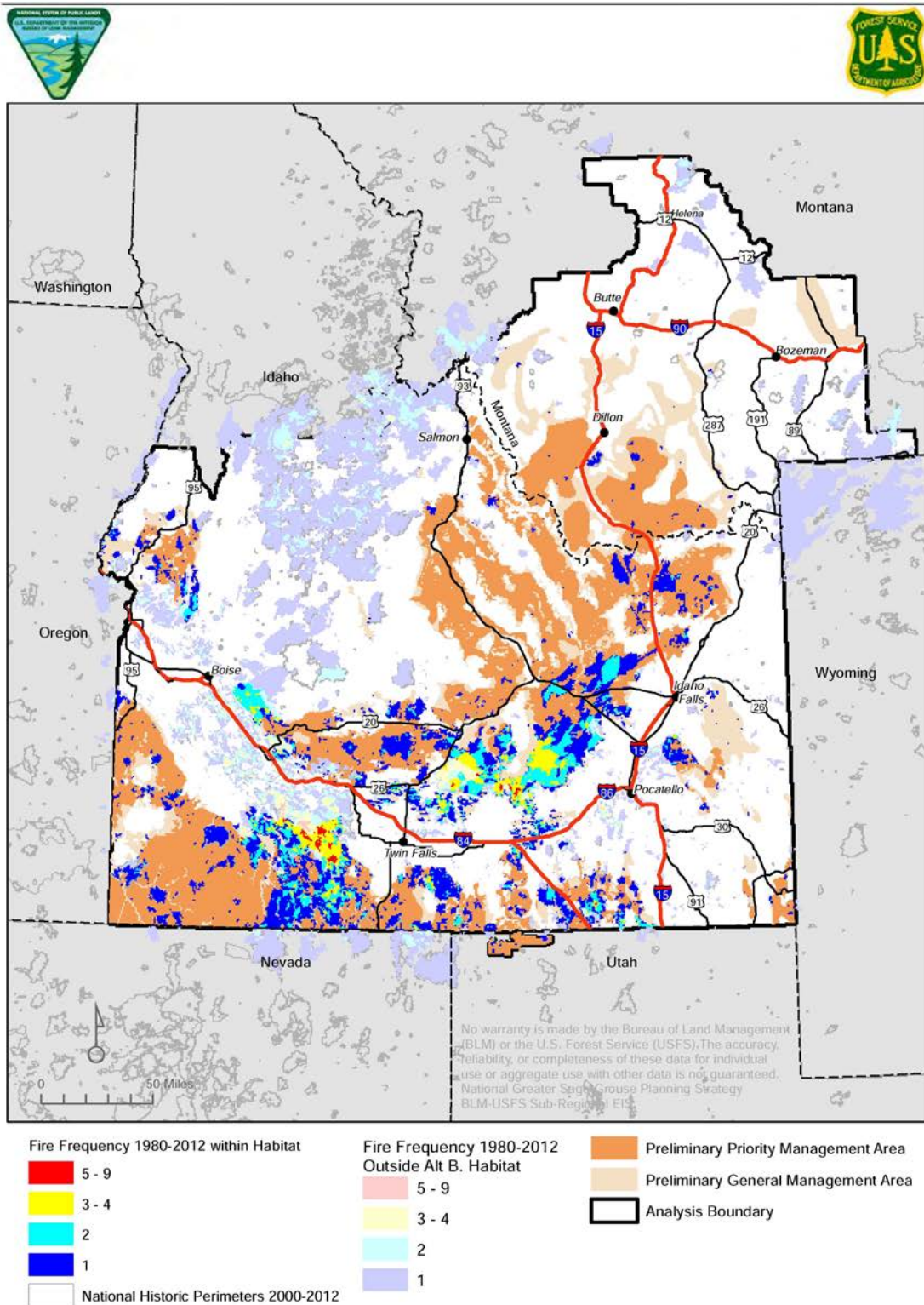


Table 3-22
Acres of Wildland Fire within GRSG Habitat

Surface Management Agency	Acres ¹ within PGH			Acres ¹ within PPH		
	Planning Area	MZ II	MZ IV	Planning Area	MZ II/VII ²	MZ IV
BLM	400,000	39,300	965,900	836,500	30,100	1,809,400
Forest Service	36,700	8,700	161,500	2,800	12,600	33,900
Tribal and Other Federal	80,200	127,000	82,400	58,100	17,100	58,100
Private	47,200	73,300	190,300	72,400	13,800	417,400
State	28,300	9,800	30,900	38,600	11,100	53,100
Other	100	0	100	600	0	700

Source: Manier et al. 2013

¹ Acres calculated from wildland fires occurring between 2000 and 2012; represents total acres burned.

² Note: BER combined acres for MZs II and VII

Table 3-23
Acres with High Probability for Wildland Fire within GRSG Habitat¹

Surface Management Agency	Acres ² within PGH			Acres ¹ within PPH		
	Planning Area	MZ II	MZ IV	Planning Area	MZ II/VII ³	MZ IV
BLM	1,801,400	402,600	4,438,100	6,035,000	862,000	11,904,200
Forest Service	428,900	182,700	621,400	601,200	31,100	1,163,200
Tribal and Other Federal	270,100	435,900	301,900	461,500	180,100	487,200
Private	890,300	593,300	2,268,400	1,338,600	871,200	4,068,100
State	363,900	62,700	649,700	600,300	151,600	738,700
Other	26,300	1,300	26,300	61,900	8,400	62,000

Source: Manier et al. 2013

¹ High burn probability is based on a national burn probability dataset generated for the 2012 Fire Program Analysis System and provided by the National Interagency Fire Center. Areas were classified in several categories: non-burnable; low probability, and high probability.

² Derived from Forest Service FSim Burn data

³ Note: BER combined acres for MZs II and VII

3.8 Livestock Grazing

The foremost authority that provides for grazing of BLM-administered lands is the Taylor Grazing Act which was passed on June 28, 1934, to protect public rangelands and their resources from degradation, to provide for orderly use to improve and develop public rangelands, and to stabilize the livestock industry. Following various homestead acts, the Taylor Grazing Act established a system for allotting grazing privileges. The FLPMA and the Public Rangeland Improvement Act (1978) also provide authority for managing grazing on public rangelands managed by the BLM. BLM grazing administration, excluding of Alaska, is governed by 43 CFR Part 4100.



The primary laws that govern grazing on Forest Service-administered lands are the Organic Administration Act of 1897, Granger-Thye Act of 1950, Multiple Sustained Yield Act of 1960, FLPMA, Forest Rangeland Renewable Resources and Planning Act of 1974, National Forest Management Act of 1976, and Public Rangelands Improvement Act of 1978. The Forest Service manages livestock grazing under direction in 36 CFR Part 222, Forest Service Manual 2200, and Forest Service Handbook 2209.13. In addition, LUPs identify the suitability of land on Forest Service-administered units to produce forage for grazing animals and establish programmatic direction for grazing activities, including goals, objectives, desired conditions, standards, guidelines, and monitoring requirements. Although an area may be deemed suitable for use by livestock in a LUP, a project-level analysis evaluating the site-specific impacts of the grazing activity, in conformance with NEPA, is required in order to authorize livestock grazing on specific allotments.

The BLM grazing administration regulations were revised in 1995 to include Fundamentals of Rangeland Health and Standards and Guidelines for Grazing Administration (43 CFR 4180). In accordance with 43 CFR 4180.2, both the Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management, and the Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands Administered by the BLM for Montana and the Dakotas were placed in effect on August 12, 1997, and subsequently apply to grazed BLM-administered lands in the planning area. Standards are integrated into the BLM's land management through incorporation into grazing permits and LUPs, as a basis for environmental assessments and through NEPA analysis, and as a basis for monitoring. Guidelines are integrated into land management by incorporating them into livestock grazing authorizations and management practices. The standards and guidelines provide a clear statement of agency policy and direction for those who use BLM-administered lands for livestock grazing and for those who are responsible for their management and accountable for their conditions. In accordance with 43 CFR Part 4180, if it is determined that grazing management practices or levels of grazing are significant factors in failing to achieve the standards and conform with the guidelines, appropriate action shall be taken prior to the next grazing season to make progress towards Standards and conform to the Guidelines.

3.8.1 Conditions within the Planning Area

Grazing permits and leases are the documents that authorize livestock grazing on BLM-administered lands (43 CFR 4100.0-5). The kind and number of livestock, the period of use (seasonal), the allotment to be used, and the amount of use in animal unit months (AUMs) are mandatory terms and conditions of every grazing permit or lease (43 CFR 4130.3). An AUM is the amount of forage necessary for the sustenance of one cow or its equivalent for one month and an allotment is an area of land designated and managed for grazing of livestock (43 CFR 4100.0-5). Livestock graze on approximately 12,129,800 acres of BLM-administered land within 2,654 allotments in the planning area.

Grazing on Forest Service-administered lands is permitted through term grazing permits that authorize grazing on Forest Service-administered lands. The term grazing permit authorizes the number, kind, and class of livestock as well as the period of use and grazing allotment on

which livestock are permitted to graze. Permit holders may not assign or transfer grazing privileges in whole or part (36 CFR 222.1-4). There are 319 allotments on 9,646,900 acres on Forest Service-administered land in the planning area.

Table 3-24, Idaho and Southwestern Montana Sub-Region Planning Area – Allotments, provides information on the allotments managed in the planning area.

Table 3-24
Idaho and Southwestern Montana Sub-Region Planning Area – Allotments

District or Forest	Allotments	Acres in Planning Area	Active AUMs	Non Habitat	PGH	PPH
BLM						
BLM Boise District	529	3,813,100	349,000	1,306,700	578,000	1,928,400
BLM Idaho Falls District	902	3,508,500	324,900	556,200	370,600	2,581,700
BLM Twin Falls District	533	3,694,400	496,000	832,400	681,600	2,180,500
BLM Western Montana District	690	1,113,800	90,300	380,400	281,100	452,300
Total	2,654	12,129,800	1,260,200	3,075,700	1,911,300	7, 142,900
Forest Service						
Beaverhead-Deerlodge	83	2,334,900	207,600	2,008,700	177,200	149,000
Boise	16	1,244,500	48,300	1,168,400	56,500	19,600
Caribou-Targhee	64	2,224,600	308,700	2,002,100	164,500	105,800
Curlew	2	47,800	27,900	1,800	6,800	39,200
Salmon-Challis	82	2,184,100	142,200	1,639,500	201,800	342,900
Sawtooth	72	1,611,000	172,100	1,135,300	202,800	273,000
Total	319	9,646,900	906,800	7,955,800	809,600	929,500

Source: BLM 2013a; Forest Service 2013a; Forest Service 2013c

Facilities for livestock management on BLM-administered and Forest Service-administered lands in the planning area occur at varying densities based upon management needs, landownership patterns and other factors. These facilities include, but are not limited to fences, cattle guards, corrals, pipelines, water troughs, wells and reservoirs. Fences are used to delineate allotment boundaries, pastures within allotments, landownerships, and to exclude the impact of ungulate grazing from certain resources. Corrals are smaller fenced areas that are occasionally located on BLM-administered and Forest Service-administered lands for the purposes of gathering, sorting and handling livestock. Watering facilities are used to improve livestock distribution in areas where naturally occurring surface water is not



available, and to reduce livestock use of naturally occurring springs and streams. In addition, supplemental salt, mineral, and protein may be provided for livestock grazing on BLM-administered and Forest Service-administered lands, to aid with distribution of authorized livestock.

Since 1999, an assessment of rangeland health standards and guidelines has been made on 2,219 BLM allotments comprising 9,978,899 acres within the planning area. Of the allotments which have been assessed, 1,403 allotments comprising 3,509,733 acres are meeting all applicable standards and guidelines. An additional 451 allotments comprising 4,581,851 acres are not achieving one or more of the applicable standards and guidelines due to livestock grazing management, but management actions have been implemented to correct the identified issues. On 61 allotments comprising 660,901 acres, standards are not being achieved due to livestock management, but management actions have not yet been taken to make progress towards meeting standards. On 293 allotments comprising 1,226,179 acres, one or more applicable standards was not met due to factors other than livestock management. Standards and guidelines assessments have not been completed on 528 allotments comprising 2,406,238 acres within the planning area. The Forest Service does not have an equivalent assessment to the BLM's rangeland health standards and guidelines, nor are similar assessment data available for Forest Service-administered lands.

3.8.2 Regional Context

Table 3-25, Acres of Grazing Allotments within GRSG Habitat, through **Table 3-27**, Miles of Fences within GRSG Habitat, display grazing data for GRSG habitat in the planning area (Manier et al. 2013). In each table, data are presented by surface management agency and their occurrence within occupied habitat in the planning area. It should be noted that for **Table 3-26**, Acres of BLM Allotments Not Meeting Land Health Standards within GRSG Habitat, data were assembled in 2008 from available records, and progress has been made towards meeting standards and guidelines since this time. In addition, this table reflects only those allotments not meeting Idaho Standards for Rangeland Health and Guidelines, Standard 8 (Threatened and Endangered Plants and Animals).

Table 3-25
Acres of Grazing Allotments within GRSG Habitat

Surface Management Agency	Acres within PGH			Acres within PPH		
	Planning Area	MZ II/VII ¹	MZ IV	Planning Area	MZ II/VII ¹	MZ IV
BLM	1,976,900	8,916,400	4,670,700	7,256,900	8,946,000	13,408,800
Forest Service	865,700	416,700	1,050,800	954,000	146,500	1,566,700
Tribal and Other Federal	128,700	148,500	153,800	262,900	156,400	266,200
Private	465,400	4,524,200	1,201,300	1,101,900	3,957,300	3,044,600
State	214,000	771,600	257,900	629,000	1,032,700	693,600
Other	400	4,200	400	1,400	17,700	1,500

Source: Manier et al. 2013

¹ Note: BER combined acres for MZs II and VII

Table 3-26
Acres of BLM Allotments Not Meeting Land Health Standards within GRSG Habitat

Surface Management Agency	Acres ¹ within PGH			Acres ¹ within PPH		
	Planning Area	MZ II/VII ²	MZ IV	Planning Area	MZ II/VII ²	MZ IV
BLM (Idaho)	440,700	366,000	968,900	1,397,800	286,900	2,617,200

Source: Manier et al. 2013

¹Only includes allotments not meeting Land Health Standards with grazing as the causal factor

² Note: BER combined acres for MZs II and VII

Table 3-27
Miles of Fences within GRSG Habitat

Surface Management Agency	Miles within PGH ¹			Miles within PPH ¹		
	Planning Area	MZ II/VII ²	MZ IV	Planning Area	MZ II/VII ²	MZ IV
BLM	4,600	8,800	7,200	10,600	9,300	16,100
Forest Service	1,600	1,100	1,900	2,000	500	2,800

Source: Manier et al. 2013

¹Derived from a dataset that identifies pasture and allotment borders on BLM-administered and Forest Service-administered land as potential fences

² Note: BER combined acres for MZs II and VII

3.9 Recreation

The diverse planning area offers multiple settings for a wide range of opportunities for recreation requiring no permits and no or minimal fees on BLM- and Forest Service-administered land.

3.9.1 Conditions within the Planning Area

BLM Recreation

Objectives of the BLM recreation program are to: (1) provide broad spectrum of resource dependent recreation opportunities to meet the needs and demands of public land visitors, (2) foster agency-wide efforts to improve service to the visiting public, (3) maintain high quality recreation facilities to meet public needs and enhance the image of the agency, and (4) improve public understanding and support of the BLM by effectively communicating the agency's multiple use management programs to the recreation visitor. The BLM accomplishes these objectives by focusing on visitor services, information and interpretation, resource enhancement and protection, facility maintenance and development, tourism programs, improved accessibility, and essential administrative functions. In meeting these objectives, the BLM also considers the presence of other federal, state and local, and private recreation opportunities; the need to assist states and local communities served by the agency to broaden and improve their economic base; and the need to continually monitor recreation trends, customer preferences, and technological advances to improve short, medium and long range strategic planning efforts.



BLM recreation planning and management is based on the establishment of Recreation Management Areas. Recreation management areas fall into two categories: 1) Special Recreation Management Areas (SRMA) and 2) Extensive Recreation Management Areas (ERMA). The BLM Recreation Planning Manual 8320 was released in 2011. Manual 8320 made policy changes to how BLM addresses planning for recreation management areas. Because the policy changes are recent, there are currently no LUPs that have recreation decisions based on the new policy. Consequently, the management decisions described here are done so in the context of the previous recreation policy.

Recreation management areas are administrative sub-units that serve as the basic land unit for recreation management. Each area is identified and managed as a unit based on similar or interdependent recreation values, homogenous or interrelated recreation use, land tenure and use patterns, or administrative efficiency.

SRMAs are established to direct recreation program priorities, including the allocation of funding and personnel, to those BLM-administered lands where a commitment has been made to provide specific recreation activity and experience opportunities on a sustainable basis. This includes a long term commitment to manage the physical, social, and administrative settings to sustain these activities and experience opportunities. Delineation is based on administrative/management criteria, including the existence of congressional designations, similar or interdependent recreation values, homogenous or interrelated recreation uses, land tenure and use patterns, transportation systems, administrative efficiency, intensity of use, high resource values, public concerns, or interagency considerations. These areas usually require a high level of recreation investment and/or management. They include recreation sites, but recreation sites alone do not constitute a SRMA. SRMAs established to reflect a congressional designation may be larger than the designation boundary when significant recreation issues or management concerns occur outside the designated area.

ERMAs are where recreation management is only one of several management objectives and where limited commitment of resources is required to provide extensive and unstructured type of recreation activities. They may contain recreation sites. The areas consist of the remainder of land areas not included in SRMAs within a field office.

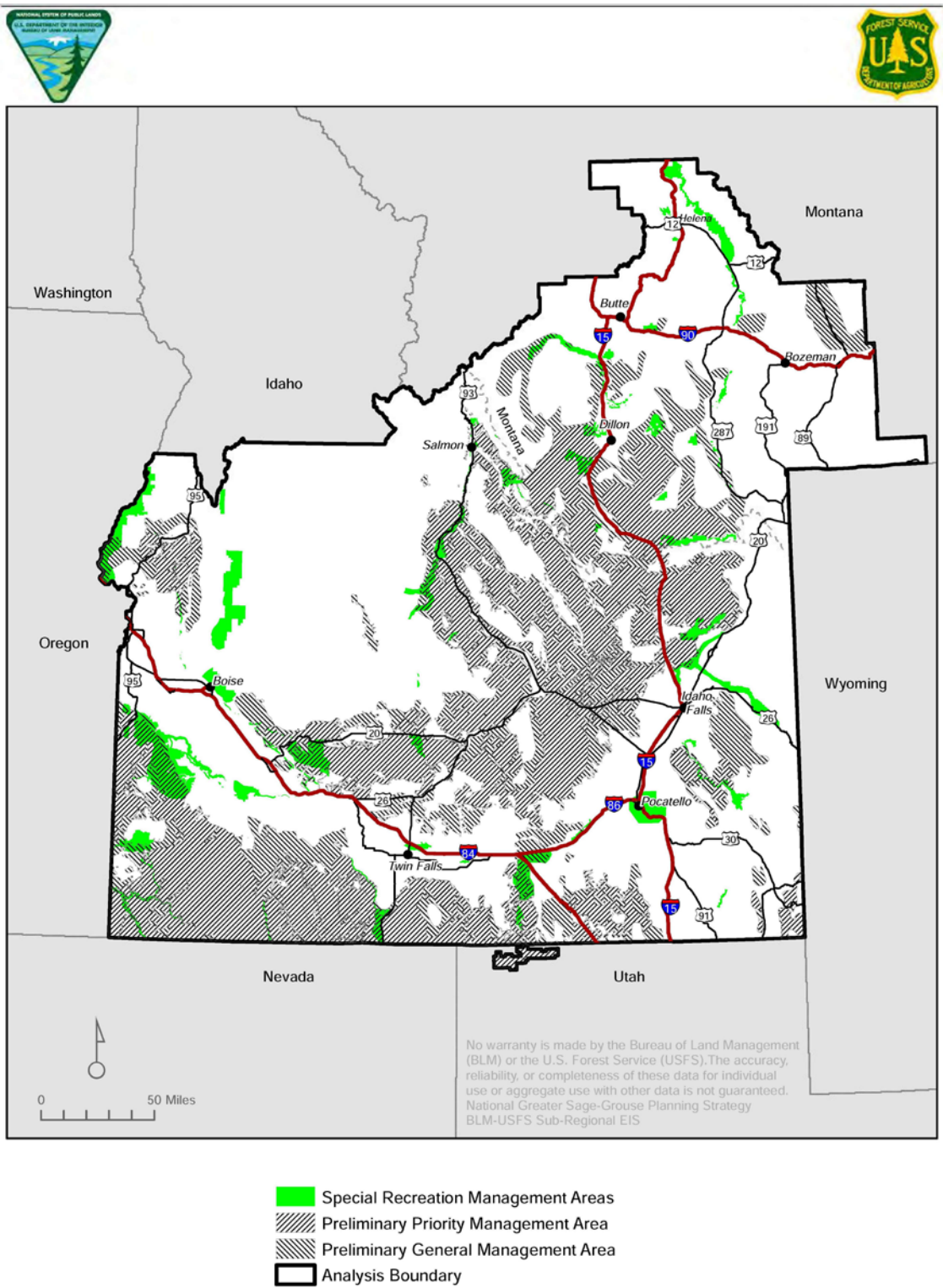
The number of SRMAs and ERMAs are listed in **Table 3-28**, Recreation Management Areas, and are mapped in **Figure 3-5**, Special Recreation Management Areas.

Table 3-28
Recreation Management Areas

SRMAs	48
ERMAs	18

Source: BLM 2013a

Figure 3-5
Special Recreation Management Areas



Within the recreation management are, there are approximately 400 recreation sites. These sites range in size and intensity of use from intensely used OHV areas (e.g., St Anthony Sand Dunes), boat ramps, and campgrounds to lightly used overlooks, trailheads and interpretive wayside exhibits.

BLM-administered lands received over 6 million visits in 2012. The BLM estimates that 20 to 25 percent of recreation visits were related to OHV use (e.g., motorcycles, all-terrain vehicles, and trucks). OHV use on BLM-administered lands has seasonal variations. In early spring when the forests often still have snow, BLM-administered lands will get recreational OHV use. As the temperatures rise and the lower elevation areas get hotter, OHV users will migrate to higher elevations where temperatures are cooler (often making more use of national forests). Use on BLM-administered lands in the fall will increase as temperatures cool and hunting season starts. There are BLM-administered lands that see little recreation use except during hunting season. OHV use is low during the cold winter months.

Depending on the OHV designation, use will be on routes in limited areas or possibly off routes where the area is designated as open (see **Section 3.10**, Travel Management, for OHV designations).

Other types of recreation activity that occur include bicycling, camping, hiking, horseback riding, skiing, snowmobiling, rafting/floating, power boating, fishing, swimming, photography, wildlife viewing, and hunting.

Forest Service Recreation

The Forest Service provides and manages a myriad of recreation opportunities for the visiting public. The National Forests and Grasslands provide the greatest diversity of outdoor recreation opportunities in the world, connecting visitors with nature in an unmatched variety of settings and activities. Visitors can hike, bike, ride horses, and drive OHVs; picnic, camp, hunt, fish, and navigate waterways; view wildlife and scenery; and explore historic places. Visitors glide through powder at world class alpine resorts and challenge themselves on primitive cross-country ski or snowmobile routes. With many partners, the recreation program strives to promote healthy lifestyles, support local economies, and connect citizens to their public lands. The Intermountain Region of the Forest Service manages over 34 million acres of forests and grasslands (5.8 million in Wilderness), with almost all of it open for public use and enjoyment. In 2012, over 11.5 million visitors came to enjoy the resources provides within the region.

BLM Special Recreation Permits

The BLM manages organized, commercial, and competitive recreation activities on BLM-administered lands and related waters with special recreation permits (SRPs). As a management tool, SRPs reduce user and resource conflicts, mitigate adverse impacts on resources, provide opportunities for monitoring activities, enhance visitor experience opportunities, and, with user fee requirements, allow for a fair return for these types of land uses. Issuance of an SRP is discretionary, with proposed activities subject to NEPA compliance and mitigation requirements specific to the proposed activity. The BLM may deny a permit request if assessment indicates unacceptable impacts; if an approved

moratorium or restricted allocation system exists for the proposed activity, location, or time-frame; if there are serious health and safety concerns; or if past performance by an applicant has been deemed unacceptable and problematic. The BLM may require an applicant to possess appropriate insurance, bonding, certifications of training, and state permits/licenses to protect resource values, the served public, and the federal government.

In 2012, the BLM had 341 active SRPs. Of those SRPs, 241 were commercial river permits and 24 are commercial big game hunting permits. The remaining SRPs are for organized groups, competitive events, or other types of commercial recreation outfitters (e.g., bike tours).

Forest Service Special Use Permits

The Forest Service manages trail, river, and similar recreation opportunities and their access and supports facilities under the principles enumerated in FSM 2303. Special Use Permits are issued for specific types of recreation activities on Forest Service managed land and may be required when extra measures are needed to protect natural or cultural resources. The following are recreation special uses that involve facilities:

- Recreation special use permits involving privately owned facilities include resorts, marinas, ski areas, target ranges, organization camps, recreation residences, and other facilities. These permits are typically authorized under term permits and users pay a land use fee based on a percent of revenue or appraised value of the land.
- Recreation special uses involving government-owned facilities are concession campgrounds, resorts, organization camps, and some other facilities.
- Recreation special uses involving commercial public services are outfitting and guiding for a broad range of activities, groomed cross-country ski trails, and recreation events (including competitive races, eco-challenges, dog trails, adventure games, and endurance races). These uses are usually authorized under the Recreation Enhancement Act, which allows fees to be retained by the administrative unit that collected them.

Additionally, noncommercial group use permits are required for groups of 75 or more people. These users do not pay fees.

The Forest Service has 910 active recreation special use permits within the planning area (197 at Boise National Forest, 258 at Sawtooth National Forest, 114 at Salmon-Challis National Forest, 29 at Payette National Forest, and 312 at Caribou-Targhee National Forest).

No permits are required for private, non-commercial use of public lands for camping, fishing, hiking, hunting, horseback riding, or similar activities.

In 2012, the Intermountain Region of the Forest Service had 2335 recreation special use permits and 267 recreation special use permits for group activities and recreation events. Of the total recreation special use permits about 1400 were for recreation residences, 796 were



for outfitter and guiding services, 53 were for organizational camps, 42 were for resort and marina permits, 28 were for concessionaires, and 16 were for ski areas.

3.9.1 Trends

Recreation use is expected to continue to grow throughout the planning area. The proximity of many recreation opportunities to the area surrounding Boise has dramatically increased recreational visitation within portions of the planning area and is expected to continue to do so.

Five key drivers are causing changes to recreation in the planning area:

1. Increased urbanization as a result of population growth and changing demographics
2. Changing public expectations and demand for outdoor recreation opportunities, especially for dispersed recreation
3. Increased energy development in portions of the planning area
4. Close proximity of BLM-administered lands to private property, and the growing use of BLM-administered lands as a community-based recreation asset
5. Technological advances, such as all-terrain or utility vehicles and mountain bikes, affordable global positioning system (GPS) units, as well as better outdoor equipment and clothing

These drivers will impact the activity opportunities that can be offered and the recreation experience and benefit opportunities that can be produced by land managers and partners.

Hunting

Although hunting licenses issued have dropped over the last decade, hunting remains a popular recreation activity within the region. While deer and elk are the most popular game in the planning area, of more relevance to this analysis are falconry and upland bird hunting.

Falconry

Falconry permit holders were surveyed after the Fall 2010-Spring 2011 hunting season (Table 3-29, Falconry Permits).

Table 3-29
Falconry Permits (Fall 2010-Spring 2011)

	#Hunters	#Days	#Harvest	Birds/ Hunter	Days/ Hunter	Birds/ Day
Species	#	#	#			
Forest Grouse	1	3	0	0.00	2.0	0.00
Chukar	8	95	4	0.49	12.3	0.04
California Quail	5	46	4	0.76	8.8	0.09
Gray Partridge (Huns)	42	1,261	86	2.04	30.0	0.07

Table 3-29
Falconry Permits (Fall 2010-Spring 2011)

	#Hunters	#Days	#Harvest	Birds/ Hunter	Days/ Hunter	Birds/ Day
Pheasant	27	850	117	4.35	31.7	0.14
Rabbit	15	467	83	5.69	32.1	0.18
Sage-Grouse	25	551	58	2.28	21.8	0.10
Sharp-tailed Grouse	8	149	13	1.67	19.8	0.08
Mourning Doves	6	173	8	1.16	26.6	0.04
Ducks	42	1,173	340	8.05	27.8	0.29
Geese	1	3	0	0.00	2.0	0.00
	180	4,770	711	3.94	26.4	0.15

159 hunters purchased Idaho falconry permits which would allow hunting in Fall 2010-Spring 2011.

Upland Birds

Idaho offers a multitude of upland game bird hunting opportunities on millions of acres of BLM- and Forest Service-administered land.

Hunters can pursue three species of forest grouse – dusky, ruffed, and spruce – and two species of prairie grouse – Columbian sharp-tailed grouse and GRSG – all native to Idaho. Forest grouse hunting opportunities exist across the state, while Columbian sharp-tailed grouse and GRSG hunting is limited to certain areas only.

While GRSG are widely distributed in areas with large blocks of sagebrush, the hunting season is generally short (1 week during 2012) and opportunities are limited to areas of southern Idaho.

Idaho also offers chukar and gray partridge hunting, and has robust populations of California quail. Chukar and gray partridge (huns) thrive on large tracts of public ground and are available to everyone willing to make the effort to hunt them.

Chukar are typically found in rocky, arid areas covered with cheatgrass and sagebrush. Gray partridge (huns) are often found in close proximity to chukar and adjacent to cultivated land across the state. Expect to find the best populations of chukar and gray partridge in the Clearwater, Magic Valley, and Southwest regions.

California quail occur from south-central Idaho, west to the Oregon border and north to the Palouse Prairie. Good populations live along rivers and streams with brushy cover below 3,500 feet in elevation.

Historically, Idaho was a destination pheasant hunting location, but populations have declined because of changes in farming practices and the resultant loss of habitat.



Upland game population trends are monitored through harvest surveys, August roadside counts, August helicopter flush counts, mourning dove coo counts, hunter check stations, and wing barrel harvest data. Each region collects data using various methods based on regional bird densities and sampling constraints. Statewide, telephone surveys assess overall hunter activity and harvest of upland game species. From 1996-2000, telephone surveys estimated statewide rather than regional trends (except turkey) due to budget constraints. A separate telephone survey has been conducted since 2000 for GRSG and sharp-tailed grouse to improve sample size for these two species that have been considered for listing under the ESA.

In 2009, approximately 40,100 resident hunting license buyers hunted upland game and approximately 5,300 nonresident hunting license buyers hunted upland game. This represents 18 percent of all resident hunting license buyers and 16 percent of all nonresident hunting license buyers.

For GRSG, the season framework was altered in 1996 to provide three different types of seasons: liberal, conservative, and closed. In 2002, the season framework was modified. The Birch Creek Valley and the Big Desert areas, closed to GRSG hunting from 1995 to 2001, were reopened. Research suggested that the closed season did not have any measurable effect on GRSG populations, as measured by number of GRSG counted on lek routes. In 2009, there was a 7-day season with a 1-bird daily bag limit in Zone 2, and a 23-day season with a 2-bird daily bag limit in Zone 3.

Starting in 2000, GRSG hunters were required to purchase a GRSG hunting validation. This requirement provided a means to collect better harvest estimates from a sample of GRSG hunters through a telephone survey. Approximately 4,400 hunters harvested 7,200 GRSG in 2009.

Numerous check stations are run in the state to gather information on reproductive success in different areas. In general, the sample size has decreased at these check stations in recent years due to shortened seasons and reduced hunter participation.

3.10 Travel Management

3.10.1 Conditions on BLM-Administered Lands

Travel and transportation are integral parts of virtually every activity that occurs on BLM-administered lands. The BLM has taken a comprehensive approach to travel and transportation management (TTM). It is an interdisciplinary approach to travel and transportation planning and management that addresses resource uses and associated access to BLM-administered lands and waters, including motorized, nonmotorized, mechanical, and animal-powered modes of travel.

Travel and transportation management planning means providing clear and specific direction that addresses public and administrative access needs on the proper levels of land and water for all modes of travel. The TTM process addresses variability among landscapes, users' interests, equipment options, and cultural and biological resource constraints. The primary

goal of TTM is to develop a systematic network of routes with appropriately designated uses that provides opportunities for a diverse set of activities to occur on BLM-administered lands, such as recreation, energy development, grazing, and wildlife management. Travel management objectives serve as the foundation for appropriate travel and access prescriptions.

There is considerable overlap between travel management and all other uses on BLM-administered lands. For example, many people visit BLM-administered lands for recreation purposes. For these visitors, a route system may serve as either a means to reach a destination where the activity occurs (e.g., a road to a trailhead or parking area) or as the focus of the recreation activity itself (e.g., four-wheel driving, hiking, or horseback riding trails).

To reduce the duplication of narrative between travel management and the other sections of this document, this section addresses only public travel and access (i.e., OHV management area designations, route designations, types of travel, and seasonal area limitations). The interrelated recreation components, such as OHV use, are addressed under **Section 3.9, Recreation**.

Modes of Travel

Visitors to BLM-administered lands use roads and trails for a variety of activities involving various modes of travel. Motorized travel in the planning area ranges from standard passenger vehicles driving on maintained roads to OHVs operating on primitive roads and trails. OHV is synonymous with off-road vehicle, as defined in 43 CFR 8340.0-5(a):

Off-road vehicle means any motorized vehicle capable of, or designed for, travel on or immediately over land, water, or other natural terrain, excluding: 1) Any nonamphibious registered motorboat; 2) Any military, fire, emergency, or law enforcement vehicle while being used for emergency purposes; 3) Any vehicle whose use is expressly authorized by the authorized officer or otherwise officially approved; 4) Vehicles in official use; and 5) Any combat or combat-support vehicle when used in times of national defense emergencies.

OHVs commonly used in the planning area include off-road motorcycles, all-terrain vehicles, utility terrain vehicles, jeeps, specialized 4-by-4 trucks, and snowmobiles. Other modes of travel include mountain biking, cross-country skiing, snowshoeing, horseback riding, pack animal driving, hiking, boating, hang-gliding, paragliding, ballooning, and wheelchairs. The type and amount of use and the location of roads and trails influence physical, social, and administrative recreation setting and the overall quality of the recreation experience.

Travel Designations

Executive Order 11644 and 43 CFR 8340 both require the BLM to designate all BLM-administered lands nationally as open, closed, or limited for OHV use.



Open

Areas designated as Open are areas where all types of vehicle use are permitted at all times anywhere in the area. Use is subject to any operating regulations and vehicle standards established in other parts of the CFR.

Limited

Areas designated as Limited are areas restricted at certain times, in certain areas, or to certain vehicular use. These restrictions may be of any type but can generally be accommodated within the following categories: numbers of vehicles; types of vehicles; time or season of vehicle use; permitted or licensed use only; use on existing roads and trails; use on designated roads and trails; and other restrictions.

Closed

Areas designated as Closed are areas restricted at certain times, in certain areas, and to certain vehicular use. These restrictions may be of any type but can generally be accommodated within the following type of categories: numbers of vehicles; types of vehicles; time or season of vehicle use; permitted or licensed use only; use on existing roads and trails; use on designated roads and trails; and other restrictions.

Federal Regulations

Route designation criteria are described in 43 CFR 8342.1 and state:

The authorized officer shall designate all public lands as open, limited, or closed to off-road vehicles. All designations shall be based on the protection of the resources of the public lands, the promotion of the safety of all the users of the public lands, and the minimization of conflicts among various uses of the public lands; and in accordance with the following criteria:

- (a) Areas and trails shall be located to minimize damage to soil, watershed, vegetation, air, or other resources of the public lands, and to prevent impairment of wilderness suitability.
- (b) Areas and trails shall be located to minimize harassment of wildlife or significant disruption of wildlife habitats. Special attention will be given to protect endangered or threatened species and their habitats.
- (c) Areas and trails shall be located to minimize conflicts between off-road vehicle use and other existing or proposed recreational uses of the same or neighboring public lands, and to ensure the compatibility of such uses with existing conditions in populated areas, taking into account noise and other factors.
- (d) Areas and trails shall not be located in officially designated wilderness areas or primitive areas. Areas and trails shall be located in natural areas only if the authorized officer determines that off-road vehicle use in such locations will not adversely affect their natural, esthetic, scenic, or other values for which such areas are established.

National Guidance

On a national level and in response to increasing demand for motorized and mechanized recreation trails on BLM-administered lands, the BLM first developed an OHV strategy and then a mountain bike strategy. These strategies emphasize that the BLM should be proactive in seeking travel management solutions that conserve natural resources while providing for ample recreation opportunities.

The BLM released the current version of the Land Use Planning Handbook (H-1601-1) in March 2005. Guidance on determining Open, Limited, and Closed OHV Area designations during the planning process was incorporated into the Comprehensive Trails and Travel Management Section (Appendix C, Section II D).

Additional TTM guidance continued to be developed and culminated with the release of the Travel and Transportation Management Manual (1626) in July 2011. Current policy states that Open areas will be limited to a size that is geographically identifiable and can be effectively managed and that expansive open areas allowing cross-country travel will not be designated in LUP revisions or new travel management plans.

The Travel and Transportation Handbook (H-8342) was released in March of 2012. It provides detailed guidance using the designation criteria in 43 CFR 8342.1 for area and route selection. It includes guidance for developing other implementation plans including but not limited to sign plans, education and outreach plans, law enforcement plans, and maintenance plans.

3.10.2 Conditions on Forest Service-Administered Lands

The Forest Service published its Travel Management Rule in 2005. It required each national forest to designate roads, trails, and areas open or closed to motor vehicles. Designations were made in accordance with criteria described in Executive Order 11644 and included the type of vehicle and, if appropriate, time of year for motor vehicle use. A given route, for example, could be designated for use by motorcycles, ATVs, or street-legal vehicles. Once designation was complete, the rule prohibited motor vehicle use off the designated system.

In addition to its formal regulations, the Forest Service developed TTM planning guidance, including the Travel Management Manual, FSM 7700 (2008), and the Travel Planning Handbook, FSH 7709.55 (2008).

Federal Regulations

The criteria for Forest Service route designation are found in 36 CFR 212.55 (a), General criteria for designation of Forest Service-administered roads, Forest Service-administered trails, and areas on Forest Service-administered lands and state:

In designating National Forest System roads, National Forest System trails, and areas on National Forest System lands for motor vehicle use, the responsible official shall consider effects on National Forest System natural and cultural resources, public safety, provision of recreational opportunities, access needs, conflicts among uses of



National Forest System lands, the need for maintenance and administration of roads, trails, and areas that would arise if the uses under consideration are designated; and the availability of resources for that maintenance and administration.

(b) Specific criteria for designation of trails and areas. In addition to the criteria in paragraph (a) of this section, in designating National Forest System trails and areas on National Forest System lands, the responsible official shall consider effects on the following, with the objective of minimizing:

- (1) Damage to soil, watershed, vegetation, and other forest resources;
- (2) Harassment of wildlife and significant disruption of wildlife habitats;
- (3) Conflicts between motor vehicle use and existing or proposed recreational uses of National Forest System lands or neighboring Federal lands;
- (4) Conflicts among different classes of motor vehicle uses of National Forest System lands or neighboring Federal lands. In addition, the responsible official shall consider:
- (5) Compatibility of motor vehicle use with existing conditions in populated areas, taking into account sound, emissions, and other factors.

3.10.3 Current Conditions

Travel planning is complete for all lands administered by the Forest Service in the planning area. Forest Service-administered lands with a designated route system are considered the same as the Limited designation on lands administered by BLM.

The BLM has not conducted travel management planning throughout the sub-region. In areas with a designation of Limited, motorized use will be limited to existing roads until individual route selection and designation occurs during subsequent implementation-level planning.

3.10.4 Regional Context

Table 3-30, Miles of Roads within GRSG Habitat, and **Table 3-31**, Acres of Roads within GRSG Habitat, display data for roads within GRSG habitat in the planning area. In each table, data are presented by surface management agency and their occurrence within occupied GRSG habitat in the planning area and MZs that overlap the planning area.

Table 3-30
Miles of Roads within GRSG Habitat

Surface Management Agency	Miles within PGH			Miles within PPH		
	Planning Area	MZ II/VII ¹	MZ IV	Planning Area	MZ II/VII ¹	MZ IV
BLM	3,408	17,000	6,500	12,500	20,100	18,900
Forest Service	1,001	500	1,200	1,405	200	1,900

Table 3-30
Miles of Roads within GRSG Habitat

Surface Management Agency	Miles within PGH			Miles within PPH		
	Planning Area	MZ II/VII ¹	MZ IV	Planning Area	MZ II/VII ¹	MZ IV
Tribal and Other Federal	600	2,700	700	1,000	1,600	1,000
Private	3,600	19,600	7,200	4,700	15,500	8,700
State	801	2,100	1,300	1,613	2,800	1,800
Other	100	0	100	100	100	100

Source: Manier et al. 2013

¹ Note: BER combined acres for MZs II and VII

Table 3-31
Acres of Roads within GRSG Habitat

Surface Management Agency	Acres within PGH ¹			Acres within PPH ¹		
	Planning Area	MZ II/VII ²	MZ IV	Planning Area	MZ II/VII ²	MZ IV
BLM	36,600	188,800	68,500	130,700	209,600	199,400
Forest Service	10,900	5,600	12,900	14,100	2,900	20,100
Tribal and Other Federal	7,600	28,600	8,000	10,900	17,100	11,200
Private	42,300	236,700	83,500	53,000	170,800	100,900
State	9,200	23,400	14,100	17,200	30,200	18,800
Other	800	200	800	1,200	900	1,200

Source: Manier et al. 2013

¹ Assumes footprint of 73.2 meters for interstate highways, 25.6 meters for primary and secondary highways, and 12.4 meters for other roads.

² Note: BER combined acres for MZs II and VII

3.11 Lands and Realty

The primary goal of the BLM Lands and Realty program is to enhance the administration of public landownership to provide the most effective configuration of lands and interests in land, consistent with land use plans developed through a full and open public involvement process, and to further the purposes of FLPMA. The objectives of the Forest Service landownership adjustment program are to achieve the optimum landownership pattern for the protection and management of resource uses, settle land title claims, and provide resource administrators with title information about the use of and resources on the land they administer.

Lands and realty actions can generally be divided between land tenure adjustments and land use authorizations. Land tenure adjustments focus on land exchange, acquisition (including purchase and easement acquisition), and disposal. Withdrawals, while managed as part of land and realty, are administrative actions that do not affect land tenure. Land use



authorizations consist of ROWs and other leases or permits for the use and occupancy of public land.

Forest Service land use plan prescriptions are similar to BLM exclusion and avoidance areas. Prescriptions can restrict or prohibit certain uses in a planning area. It should also be noted that the Forest Service grants special use authorizations (granting ROWs, permits, easements, and leases), while the BLM grants ROWs on their respective agency lands. Lastly, the Forest Service completes landownership adjustments (purchase, exchange, donation, and ROW acquisition), while the BLM conducts land tenure adjustments (exchanges, disposals, and acquisitions).

3.11.1 Conditions within the Planning Area

The lands within the planning area are owned and may be managed by multiple federal, state, and local agencies, as well as private landowners. The configuration of landownerships and their proximity to each other is an important factor when considering land tenure adjustments and evaluating land use authorization applications. The planning area contains lands managed by several federal and state agencies, the Bureau of Indian Affairs (in trust for Native American tribes), and private lands. **Table 3-32**, Acres of GRSG Habitat by Surface Management, shows the acreage and overall percent ownership for each land manager in the planning area.

Table 3-32
Acres of GRSG Habitat by Surface Management

Surface Land Management	Acres PPH	Acres PGH	Acres Outside Habitat	Total Acres
Bureau of Land Management	7,266,502	1,993,711	3,469,923	12,730,136
BLM – Idaho	6,811,269	1,749,965	2,982,419	11,543,653
BLM – Montana	455,233	243,746	487,504	1,186,483
Forest Service	963,016	897,476	12,027,664	13,887,758
Forest Service - Idaho	800,412	661,830	9,631,958	11,094,200
Forest Service - Montana	162,604	235,646	2,395,706	2,793,558
US Fish and Wildlife Service	35,244	3,648	21,433	60,325
National Park Service	27,334	222,701	420,379	670,414
Department of Energy	378,042	182,455	1,672	562,169
Department of Defense	11,148	37,714	81,014	129,876
Bureau of Reclamation	3,171	22,729	217,720	243,620
Bureau of Indian Affairs	60,635	29,161	273,926	363,722
Indian Reservation	143,949	10,672	188,991	343,612
Idaho State Lands	642,411	368,186	802,820	1,813,417
Montana State Lands	221,665	167,455	431,995	821,115
Private	2,137,373	2,235,327	12,762,174	17,134,874
Other	55,621	29,564	280,985	366,170
Total Acres:	11,946,111	6,200,799	30,980,696	49,127,208

Source: BLM 2013a

Within the planning area, BLM-administered lands have been classified for retention or disposal pursuant to Section 7 of the Taylor Grazing Act (43 USC 315f), FLPMA, and 43 CFR Parts 2400 and 2500; BLM-administered lands have also been identified as ROW exclusion or avoidance areas, and ROW corridors, pursuant to FLPMA and 43 CFR Part 2800. Section 205 of the FLPMA authorizes the Secretary of Agriculture to acquire access (lands or interest therein) over non-federal lands to units of the National Forest System by purchase, exchange, donation, or eminent domain. Several acts of Congress authorize occupancy and use of Forest Service-administered lands and interests in lands administered by the Forest Service. The applicable statutory authority determines the appropriate special use authorization. For example, some permits and temporary permits are issued under the provisions of the Organic Administration Act of June 4, 1897 (16 USC 477-482, 551), while some easements and leases and other types of permits are issued under the provisions of Title V, Federal Lands Policy and Management Act of October 21, 1976 (43 USC 1761-1771), and the Forest Roads and Trails Act of 1964.

Table 3-33, Land Classifications/Designations in Planning Area (Acres), lists the number of acres identified with land tenure classifications and ROW designations in the planning area. **Figure 3-6**, Authorized Rights-of-Way in the Planning Area, and **Figure 3-7**, Pending and Expired Rights-of-Way in the Planning Area, provide an overview of the extent of lands currently occupied by ROWs.

Table 3-33
Land Classifications/Designations in Planning Area (Acres)

Land Status	Acres within Planning Area
Disposal by sale	869,400
Disposal by exchange	942,900
Withdrawals (Total)	4,610,000
Withdrawals (BLM)	4,025,900
Withdrawals (Forest Service)	584,100
ROW Avoidance (Total)	8,280,200
ROW Avoidance (BLM)	1,087,000
ROW Avoidance (Forest Service)	7,193,200
ROW Exclusion (Total)	3,494,600
ROW Exclusion (BLM)	1,036,000
ROW Exclusion (Forest Service)	2,458,600

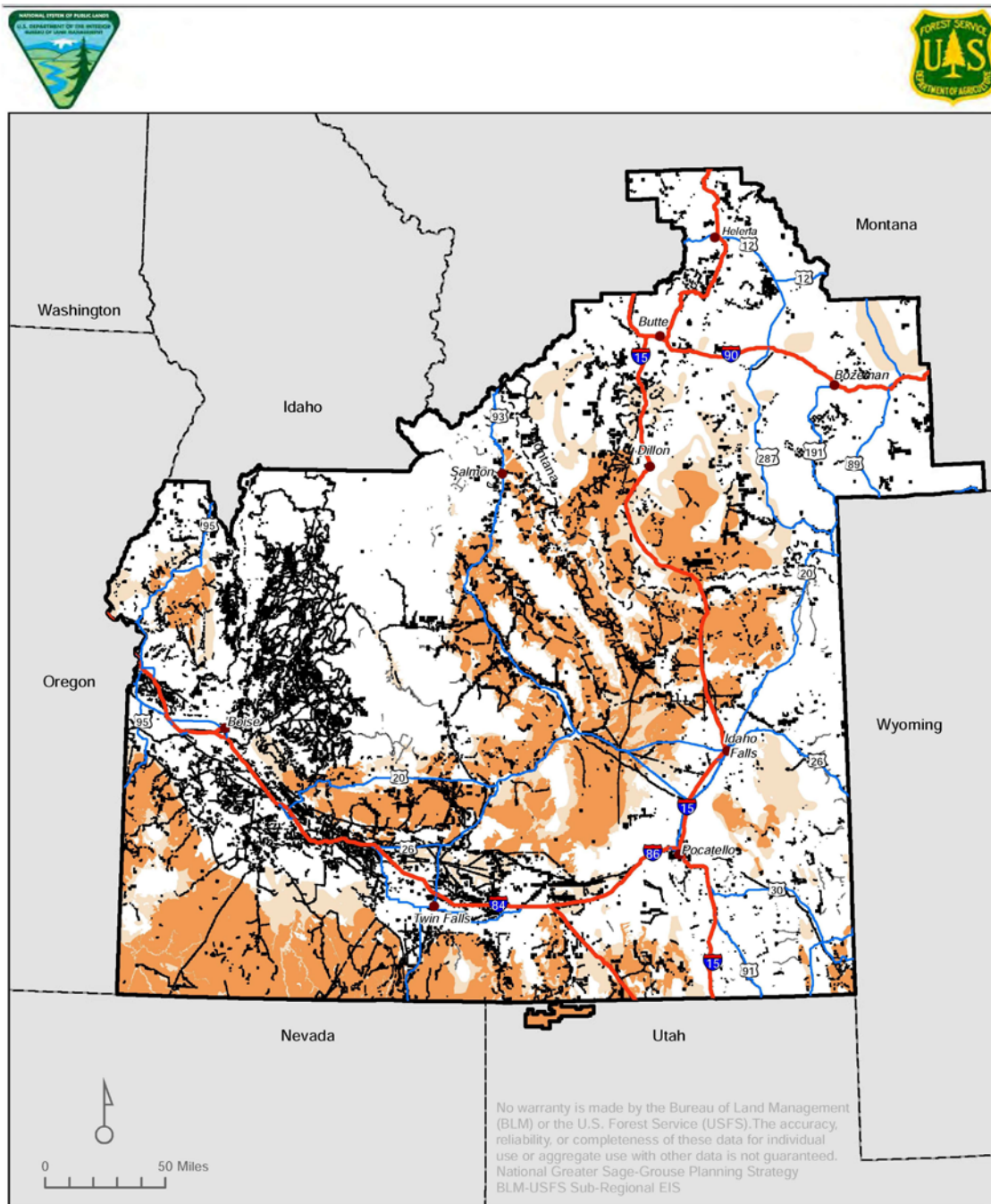
Source: BLM 2013a

Land Tenure Adjustments

Landownership (or land tenure) adjustment refers to those actions that result in the disposal, acquisition, purchase, exchange, or donation of land or acquisition or grant of ROW by the BLM; or purchase, exchange, or donation of land, or ROW acquisition by the Forest Service. Section 102(a) of FLPMA requires that land be retained in federal ownership unless, as a result of land use planning, it is determined that disposal of certain parcels will service in

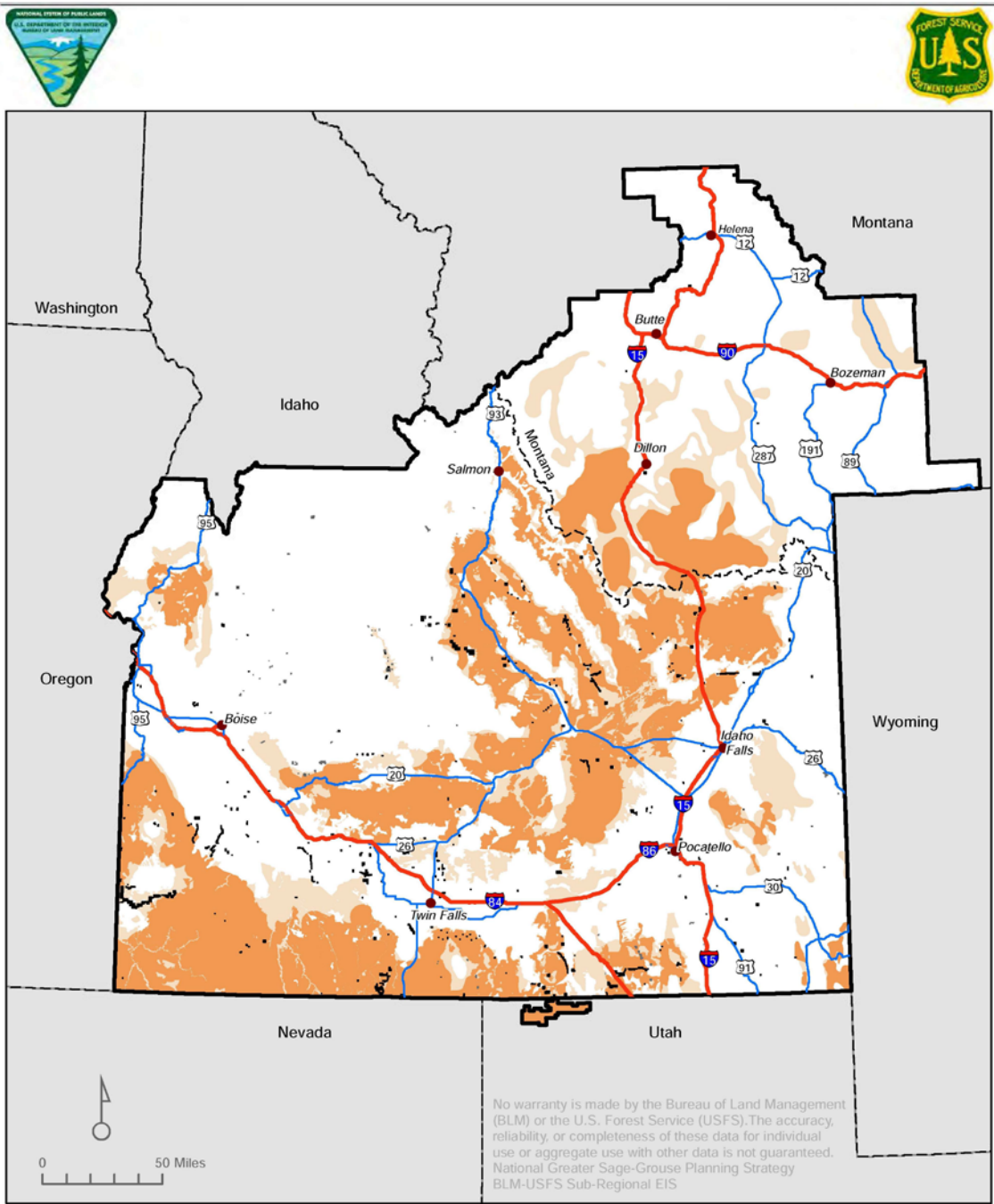


Figure 3-6
Authorized Rights-of-Way in the Planning Area



- Authorized Rights of Ways as of 4/26/2013
- Preliminary Priority Management Area
- Preliminary General Management Area

Figure 3-7
Pending and Expired Rights-of-Way in the Planning Area



- Pending and Expired Rights of Ways as of 4/26/2013
- Preliminary Priority Management Area
- Preliminary General Management Area

the national interest. In all land tenure adjustments, keeping the surface and mineral estate intact on both the lands disposed of and acquired would benefit the future owners and their use of the land.

Disposals

Disposal areas include tracts of land that are economically difficult to manage, and/or parcels that could serve important public objectives, including, but not limited to, expansion of communities and economic development. These lands are usually disposed of through exchanges or land sales.

The Forest Service has very limited authority to sell or otherwise dispose of Forest Service-administered lands. Most authorities allowing the sale of lands have specific criteria or identify only a small number of properties for sale or disposal in a limited geographical area. The tool used most often for conveyance of lands within National Forest boundaries is land exchange.

LUPs relevant to the planning area identify 1,812,300 acres of BLM-administered land for disposal. Of these, 559,300 acres lie within PPH, while 257,400 acres lie within PGH. No Forest Service-administered land has been identified for disposal in the planning area.

Exchanges. Exchange is the process of trading lands or interests in lands and serves as a viable tool for the BLM to accomplish its goals and mission. Exchanges must be in the public interest and conform to applicable BLM LUPs. The lands to be exchanged must be of approximately equal monetary value and located within the same state. BLM-administered lands may be exchanged for lands or interests in lands owned by corporations, individuals, or government entities. Except for those exchanges that are congressionally mandated or judicially required, exchanges are voluntary and discretionary transactions with willing landowners.

Land exchanges are used to bring lands and interests in land with high public resource values into public ownership, consolidate land and mineral ownership patterns to achieve more efficient management of resources and BLM programs, and dispose of BLM-administered land parcels identified for disposal through the planning process.

Forest Service-administered lands are exchanged to achieve a desired national forest landownership pattern that supports forest land and resource goals and objectives, addresses fragmentation, reduces future management costs, and responds to urban and community needs. The objective of the Forest Service land exchange program is to use land exchanges as a tool, in concert with the purchase program, to implement Forest land and resource management planning and direction; to optimize National Forest System landownership patterns; to further resource protection and use; and to meet the present and future needs of the American people.

There are land exchanges pending on 76,982 acres (37,141 federal acres and 39,841 nonfederal acres) within the planning area. One land exchange totaling 52 acres has been identified on Forest Service-administered land in the planning area.

Land Sales. Section 203 (a) of FLPMA provides for sale of public lands if one of the following criteria is met: (1) the tract is difficult and uneconomic to manage as part of the public lands and is not suitable for management by another federal agency; (2) such tract was acquired for a specific purpose and the tract is no longer required for that or any other federal purpose; or (3) disposal of such tract will serve important public objectives, including but not limited to, expansion of communities and economic development that cannot be achieved prudently or feasibly on land other than public land. Public lands that have been identified for consideration for disposal by sale in the approved LUPs meet one or more of these criteria. Public lands must be sold at fair market value.

Section 209 of FLPMA authorizes the conveyance of federal minerals through sale and specifies the conditions under which the mineral rights would be conveyed. The mineral rights could be sold with the land surface, sold as a separate transaction, or retained. Conveyance of mineral rights has occurred only in conjunction with the sale of land.

The Forest Service has very limited authority to sell or otherwise dispose of Forest Service-administered lands. Most authorities allowing the sale of lands have specific criteria or identify only a small number of properties for sale or disposal in a limited geographical area. The tool used most often for conveyance of lands within National Forest boundaries is land exchange. Thus, no Forest Service-administered land has been identified for sale in the planning area.

Withdrawal. Withdrawal are formal actions that accomplish one or more of the following actions:

- Transfers total or partial jurisdiction of federal land between federal agencies
- Segregates (closes) public lands to appropriation under public land laws including mineral laws
- Dedicates public land for a specific public purpose

There are three major categories of formal withdrawals: (1) congressional withdrawals, (2) administrative withdrawals, and (3) Federal Power Act or Federal Energy Regulatory Commission (FERC) withdrawals. Congressional withdrawals are legislative withdrawals made by Congress in the form of public laws (acts of Congress). Administrative withdrawals are made by the President, Secretary of the Interior, or other authorized officers of the executive branch of the federal government. Federal Power Act or FERC withdrawals are power project withdrawals established under the authority of the “Federal Power Act” of 1920. Such withdrawals are automatically created upon filing an application for a hydroelectric power development project with FERC.

Federal policy now restricts all withdrawals to the minimum time and acreage required to serve the public interest, maximize the use of withdrawn lands consistent with their primary purpose, and eliminate all withdrawals that are no longer needed. Management and



adjustment of withdrawals focuses on the establishment, management, modification, and revocation of withdrawals.

The purpose of a withdrawal is to withhold Forest Service-administered land from operation of various federal laws, to either reserve the area for some future use or to maintain other public values of the area. A withdrawal may prevent the land from leaving federal ownership, may prevent mineral leasing or may prevent entry under the mining laws. In recent years most withdrawals prevent entry under the mining laws since it is a nondiscretionary action.

The main object of a Forest Service withdrawal is to protect administrative sites and other capital improvements, and to protect designated management areas not compatible with mining activity. Other agencies such as FERC and the Bureau of Reclamation often request withdrawal of Forest Service-administered land for their purposes. The Department of Defense use of Forest Service-administered lands is by special use authorization, agreement, or the Interchange Act of 1956.

There are currently 28 withdrawals in the planning area, encompassing 4,025,900 acres of BLM-administered lands. Of these withdrawals, 1,437,200 acres reside on PPH, and 782,000 acres reside on PGH. There are approximately 584,100 acres of Forest Service withdrawals in the planning area.

Acquisition

Acquisition of and interests in lands are important components of the BLM's land tenure adjustment strategy. Acquisition of lands can be pursued to facilitate various resource management objectives. Acquisitions, including easements, can be completed through exchanges (see above), land purchases, or donations.

The Forest Service purchases lands through the Land and Water Conservation Fund to protect critical resource areas and provide increased public recreation opportunities. Land donations are accepted to consolidate Forest Service-administered lands and protect critical resource areas. The legal public use of Forest Service-administered lands is improved by acquiring ROWs for roads and trails.

Lands and interests in lands are acquired for the following actions:

- Improve management of natural resources through consolidation of federal, state, and private lands
- Secure key property necessary to protect endangered species, promote biological diversity, increase recreational opportunities, and preserve archeological and historical resources
- Implement specific acquisitions authorized or directed by acts of Congress

Forest Service objectives in lands or interests in lands through purchase, donation, and rights-of-way are to:

- Enhance the multiple use and sustained yield of the goods and services from Forest Service-administered lands
- Protect and improve the quality of renewable resources
- Protect and preserve important historic, cultural, and natural aspects of the national heritage
- Provide for access, use, and enjoyment of the forest resources by the public
- Improve administrative efficiency and effectiveness of Forest Service-administered lands

One Forest Service land exchange is proposed in Idaho that would affect 52 acres of land within PGH.

Purchases. The BLM has the authority, under Section 205 of FLPMA, to purchase lands or interests in lands. Similar to other acquisitions, purchase is used to acquire key natural resources or to acquire legal ownership of lands that enhance the management of existing public lands and resources. Acquiring lands and interests in lands through purchase helps consolidate management areas to strengthen resource protection. Acquisitions are used primarily to enhance recreational opportunities and acquire crucial wildlife habitats.

Land Use Authorizations

The most common form of authorization to permit uses of BLM-administered lands by commercial, private, or governmental entities is the ROW grant. A ROW grant is an authorization to use a specific piece of BLM-administered land for certain projects such as roads, pipelines, transmission lines, or communication sites.

Some uses of BLM-administered lands are short-term uses and authorized through land use permits such as filming activities or apiary sites (bee hives).

Authorizations grant rights and privileges for a specific use of the land for a specific period of time. The BLM's objective is to grant land use authorizations to any qualified individual, business, or government entity, and to direct and control the use of authorizations on BLM-administered lands in a manner that:

- protects the natural resources associated with BLM-administered lands and adjacent lands, whether private or administered by a government entity
- prevents unnecessary or undue degradation to BLM-administered lands
- promotes the use of authorizations in common, considering engineering and technological compatibility, national security, and area LUPs
- coordinates, to the fullest extent possible, all BLM actions with local, state, Native American, and other federal agencies; interested individuals; and appropriate quasi-public entities (43 CFR 2801.2)



Forest Service special use permits authorize and administer use of Forest Service-administered lands by individuals, companies, organized groups, other federal agencies and state or local levels of government in a manner that protects natural resource values and public health and safety. For example, special use permits authorize uses that contribute to the nation's infrastructure for generating and transmitting energy resources, such as: electric transmission facilities, oil and gas pipelines, hydropower facilities, and wind and solar facilities. They authorize uses for communications, commerce, public health and safety, and homeland security, such as fiber-optic and wireless telecommunications, water development systems, federal, state, and local highways.

The Forest Service objectives of granting ROWs for roads and trails are to:

- Provide ROWs for the public road system, including the federal-aid system, when such roads cross Forest Service-administered lands or interests in lands
- Accommodate the access needs for the protection, development, and utilization of lands and resources owned by private interests or administered by public agencies when the planned forest development road system and public road system do not meet those needs adequately
- Protect and enhance the quality of air, water, soil, and natural beauty of Forest Service-administered lands in the granting of any ROW
- Cooperate with intermingled and adjacent landowners in developing roads that serve the needs of both parties through the exchange of ROWs
- Provide access across Forest Service-administered lands to private land that is adequate to secure the owners thereof of reasonable use and enjoyment of their land without unnecessarily reducing the management options of the Forest Service or damaging Forest Service-administered lands or resources

ROW Avoidance and Exclusion Areas

Areas closed to mineral leasing, having a no surface occupancy restriction, or otherwise identified as unsuitable for surface disturbance or occupancy are generally identified as avoidance or exclusion areas for ROW authorizations. Restrictions and mitigation measures could be modified on a case-by-case basis for avoidance areas, depending on impacts on resources, while exclusion areas are strictly prohibited from ROW development. See **Table 3-33** for the number of acres currently identified as ROW avoidance and exclusion areas.

ROW Corridors

Designated utility corridors are developed to concentrate the effects of utility lines in manageable locations on BLM- and Forest Service-administered lands, which often provide suitable locations for utility transmission lines. The corridors may contain power line, transcontinental fiber optic communications cables, and trans-state gas pipelines. Designated utility corridors are designated in BLM and Forest Service LUPs. Such corridor designations are relatively uncommon in the sub-region. The mere presence of a transmission line or pipeline does not imply that it is within a formally designated corridor. Under this planning effort there are no undesignations or changes to the character of previously existing

designated corridors; for example, all West-Wide Energy Corridors in Idaho allow for both overhead and buried utilities; those designations will not change. Also, this plan does not attempt to establish any new formally designated ROW corridors.

For PPMA, new utility pipelines or transmission lines exceeding 50kV are excluded, unless they can be sited within a utility corridor previously designated in a BLM or Forest Service LUP (and subject to appropriate BMPs and siting considerations for GRSG). See **Table 3-33** for the number of acres currently identified as ROW avoidance and exclusion areas.

Renewable Energy

Solar, wind, biomass, and geothermal (which is managed as a fluid leasable mineral) are considered renewable energy resources. Renewable energy resources all have different requirements related to economic development; however, some issues are common to all renewable energy resources, including connection to the existing power transmission facilities and compatibility with existing federal land use.

Wind and solar resource facilities are permitted with ROW authorizations, through the Lands and Realty Program. Geothermal resources, as mentioned above, are considered fluid leasable minerals (See **Section 3.12**, Mineral Resources). As a result, management actions related to the Lands and Realty Program and leasable minerals could affect renewable energy resources. Special management designation areas, such as ACECs and WSAs, could also affect the use of renewable energy resources by limiting the location of these facilities.

Forest Service renewable energy generation and transmission includes wind, solar, and geothermal energy facilities. Section 501(a)(4) of the FLPMA authorizes the Forest Service to issue ROWs for the use and occupancy of Forest Service-administered lands for generation, transmission, and distribution of electric energy. The Energy Policy Act of 2005 recognizes the Forest Service's role in meeting the renewable energy goals of the US.

Consistent with Forest Service policies and procedures, the use and occupancy of Forest Service-administered lands for alternative energy production, such as wind energy development, are appropriate and will help meet the energy needs of the US. Permits for solar energy power facilities are issued only if non-Forest Service-administered lands are not available and if adverse impacts can be minimized. Permits for geothermal energy power facilities are issued only if feasibility studies have determined that it is not feasible to transmit geothermal water to a power-generating facility on non-Forest Service-administered lands and if adverse impacts can be minimized.

3.11.2 Trends

Land Use Authorizations

Land use authorization requests are customer driven. Within the planning area most authorizations processed are primarily for roads, electric distribution lines, and communications sites. Major ROWs are those large-scale utility projects, such as for 500kV electric transmission, wind, and solar development. Land use authorization requests are customer driven.



Over the last 6 years in the planning area, the BLM has received a number of applications for major transmission line projects to traverse the state. Prior to that time, it had been over 20 years since major transmission line applications were received by the BLM. The BLM has not received any applications for utility-scale solar production in the planning area, nor are there solar resources comparable to the areas where utility-scale solar production projects are being proposed or built.

Over the last six years, the BLM has authorized and then relinquished a ROW for wind development and has two pending applications. Wind testing sites have been authorized on BLM lands in the planning area, though no wind developments have been authorized and constructed.

3.11.3 Regional Context

Table 3-34, Acres of GRSG Habitat within City Limits, through **Table 3-42**, Acres of Wind Energy Authorizations within GRSG Habitat, displays data for GRSG habitat in the planning area (Manier et al. 2013). In each table, data are presented by surface management agency and their occurrence within occupied GRSG habitat in the planning area and across the entire MZs.

The conversion of sagebrush habitat to agricultural land or urban areas can result in GRSG habitat becoming fragmented and increases in domestic predators such as cats and dogs (Knick and Rotenberry 1995). **Table 3-34**, Acres of GRSG Habitat within City Limits, illustrates the locations where agricultural or urban development could occur given the location within a city boundary.

Table 3-34
Acres of GRSG Habitat within City Limits

Surface Management Agency	Acres within PGH			Acres within PPH		
	Planning Area	MZ II/VII ¹	MZ IV	Planning Area	MZ II/VII ¹	MZ IV
BLM	300	106,200	19,700	1,100	37,400	1,100
Forest Service	700	24,600	700	0	21	0
Tribal and Other Federal	0	2,500	100	0	32,400	0
Private	4,600	209,300	43,400	4,202	79,100	4,100
State	51	10,900	2,800	31	6,800	31
Other	38	0	38	0	0	0

Source: Manier et al. 2013

¹ Note: BER combined acres for MZs II and VII

Communication towers, transmission lines, electrical distribution lines and other vertical structures provide additional perching opportunities for ravens and other birds of prey can result in habitat fragmentation, habitat avoidance, and can increase vehicle traffic during maintenance operations (USFWS 2010a). **Table 3-35**, Number of Communication Towers within GRSG Habitat, presents the number of communication towers in each MZ.

Table 3-35
Number of Communication Towers within GRSG Habitat

Surface Management Agency	Number ¹ within PGH			Number ¹ within PPH		
	Planning Area	MZ II/VII ²	MZ IV	Planning Area	MZ II/VII ²	MZ IV
BLM	4	18	5	11	8	7
Forest Service	0	2	0	0	0	0
Tribal and Other Federal	8	5	8	1	2	1
Private	5	54	7	8	10	7
State	0	0	0	0	0	0
Other	0	0	0	0	0	0

Source: Manier et al. 2013

¹Displays the number of Federal Communication Commission communication towers.

² Note: BER combined acres for MZs II and VII

Table 3-36, Acres of Transmission Lines within GRSG Habitat, shows the portion of transmission lines in occupied habitat in the planning area and MZs.

Utility corridors are a planning tool that enables the BLM and Forest Service to identify desired locations for future infrastructure. **Table 3-37**, Acres of Utility Corridors within GRSG Habitat, provides the miles and acres of Section 368 Energy corridors for occupied habitat.

Table 3-36
Acres of Transmission Lines within GRSG Habitat

Surface Management Agency	Acres ¹ within PGH			Acres ¹ within PPH		
	Planning Area	MZ II/VII ²	MZ IV	Planning Area	MZ II/VII ²	MZ IV
BLM	29,600	172,000	42,000	56,400	130,800	83,600
Forest Service	2,000	3,000	3,500	4,432	2,900	5,800
Tribal and Other Federal	4,683	33,900	4,700	10,700	7,500	10,700
Private	29,400	206,000	57,900	23,000	119,500	47,000
State	9,330	20,000	11,200	5,912	20,100	6,500
Other	900	100	900	2,800	1,000	2,800

Source: Manier et al. 2013

¹Includes transmission lines greater than 115 kilovolts (kV) and assumes a 656-foot-wide (200 meter) footprint.

² Note: BER combined acres for MZs II and VII



Table 3-37
Acres of Utility Corridors within GRSG Habitat

Surface Management Agency	Acres within PGH ¹			Acres within PPH ¹		
	Planning Area	MZ II/VII ²	MZ IV	Planning Area	MZ II/VII ²	MZ IV
BLM	61,700	269,000	90,200	54,100	151,600	131,900
Forest Service	300	1,200	300	900	2,900	900
Tribal and Other Federal	700	6,500	700	0	0	0
Private	11,200	190,100	21,900	12,600	84,100	34,000
State	6,500	15,300	6,800	3,900	13,900	4,100
Other	0	0	0	0	2,200	0

Source: Manier et al. 2013

¹Centerlines for proposed locations of Section 368 energy corridors were buffered by varied widths, based on corridor width attribute data, to create the direct area of influence.

² Note: BER combined acres for MZs II and VII

Railroads can fragment GRSG habitat (Knick and Rotenberry 1995). **Table 3-38**, Miles of Railroads within GRSG Habitat, and **Table 3-39**, Acres of Railroads within GRSG Habitat, show the railroad miles and acres, respectively, in occupied habitat.

Table 3-38
Miles of Railroads within GRSG Habitat

Surface Management Agency	Miles within PGH			Miles within PPH		
	Planning Area	MZ II/VII ¹	MZ IV	Planning Area	MZ II/VII ¹	MZ IV
BLM	66	200	100	84	100	100
Forest Service	1	0	1	8	0	8
Tribal and Other Federal	14	42	14	19	9	19
Private	42	700	300	39	300	100
State	4	100	0	0	0	0
Other	0	0	0	0	1	0

Source: Manier et al. 2013

¹ Note: BER combined acres for MZs II and VII

Table 3-39
Acres of Railroads within GRSG Habitat

Surface Management Agency	Acres within PGH ¹			Acres within PPH ¹		
	Planning Area	MZ II/VII ²	MZ IV	Planning Area	MZ II/VII ²	MZ IV
BLM	300	1,500	500	200	500	400
Forest Service	8	0	8	58	0	58
Tribal and Other Federal	83	300	84	77	12	77

Table 3-39
Acres of Railroads within GRSG Habitat

Surface Management Agency	Acres within PGH ¹			Acres within PPH ¹		
	Planning Area	MZ II/VII ²	MZ IV	Planning Area	MZ II/VII ²	MZ IV
Private	200	5,100	900	200	1,400	400
State	21	400	24	21	75	21
Other	0	0	0	0	11	0

Source: Manier et al. 2013

¹Assumes footprint of 9.4 meters.

² Note: BER combined acres for MZs II and VII

Table 3-40
Acres of Vertical Obstructions within GRSG Habitat

Surface Management Agency	Acres ¹ within PGH			Acres ¹ within PPH		
	Planning Area	MZ II/VII ²	MZ IV	Planning Area	MZ II/VII ²	MZ IV
BLM	100	600	200	100	300	200
Forest Service	35	28	36	11	0	22
Tribal and Other Federal	51	100	100	11	0	11
Private	100	1,400	200	63	300	200
State	0	100	0	0	100	0
Other	3	0	0	0	0	0

Source: Manier et al. 2013

¹Derived from dataset containing Federal Communication Commission communication towers and Federal Aviation Administration vertical obstructions. Excludes wind towers. Assumes a buffer of 56.4 meters (2.47 acres) around each obstruction.

² Note: BER combined acres for MZs II and VII

Table 3-41
Acres of Wind Towers within GRSG Habitat

Surface Management Agency	Acres within PGH ¹			Acres within PPH ¹		
	Planning Area	MZ II/VII	MZ IV	Planning Area	MZ II/VII	MZ IV
BLM	0	0	0	0	0	0
Forest Service	0	0	0	0	0	0
Tribal and Other Federal	0	0	0	0	0	0
Private	3	600	200	0	18	0
State	0	100	0	0	0	0
Other	0	0	0	0	0	0

Source: Manier et al. 2013

¹Assumes a footprint of 62 square meters per wind tower.

² Note: BER combined acres for MZs II and VII



Table 3-42
Acres of Wind Energy Authorizations within GRSG Habitat

Surface Management Agency	Acres within PGH			Acres within PPH		
	Planning Area	MZ II/VII ¹	MZ IV	Planning Area	MZ II/VII ¹	MZ IV
BLM	14,000	0	296,500	16,100	0	580,600
Forest Service	0	0	0	0	0	0
Tribal and Other Federal	100	0	200	0	0	1,700
Private	900	0	2,300	2,100	0	13,900
State	38	0	400	0	0	0
Other	0	0	0	0	0	0

Source: Manier et al. 2013

¹ Note: BER combined acres for MZs II and VII

3.12 Mineral Resources

Fluid Leasable Minerals

The right to drill for and develop fluid minerals, namely oil and gas and geothermal resources, on federal land may only be acquired through a mineral lease, offered and administered by the BLM in accordance with the Mineral Leasing Act of 1920, as amended and supplemented (30 USC 181 et seq.). The limit for a competitive oil and gas lease is 2,560 acres in size, while a geothermal lease can be up to 5,280 acres in size. If an oil and gas lease is not sold during the competitive sale, it may be sold noncompetitively and may be combined with other parcels for a total of 10,240 acres, but the maximum size for a geothermal lease remains 5,280 acres.

The leases have a 10-year term. If there is no discovery in 10 years, the leases expire. There is no renewal for diligence. If there is a discovery, the lease may be held as long as there is production. The BLM can modify the right conveyed by a lease by attaching a stipulation, which is an enforceable condition of the lease. During the leasing process, the BLM may apply stipulations (for example No Surface Occupancy, Controlled Surface Use, and Timing Limitations) to all or parts of a lease in order to protect a wide range of resources including soils, watersheds, cultural resources, and wildlife (e.g., GRSG). Stipulations may impact the availability of fluid mineral resources on a lease by restricting the timing and/or location of exploration and development activities. On Forest Service-administered lands, the BLM cannot issue a lease without Forest Service consent. Forest Service consent includes stipulations that must be added to the lease to protect the resources on the Forest.

The issuance of a lease does not, in and of itself, authorize any surface-disturbing activities. If a lessee wishes to conduct exploratory drilling, an application for permit to drill must be submitted to the BLM for approval. An environmental analysis is conducted and as a result, the BLM may attach additional, site-specific and activity-specific conditions, called Conditions of Approval or Best Management Practices, to the drilling permit. The Forest Service approves the Surface Use Plan of Operations portion of the application for permit to drill, and may also add COAs. The BLM cannot deny operations on a lease unless the

operation would violate other nondiscretionary statutes, such as the ESA or the Clean Water Act. In cases where surface operations would have unacceptable environmental impacts, the BLM's authority to deny operations on the lease, if not specified in a particular statute, must be established in the lease through the use of lease stipulations.

All leases, regardless of whether they have additional stipulations, are offered with standard terms and conditions. In accordance with a 2002 Instruction Memorandum from the BLM Washington Office, all fluid mineral leases must include the following stipulation:

Endangered Species Act Section 7 Consultation Stipulation

The lease area may now or hereafter contain plants, animals or their habitats determined to be threatened, endangered, or other special status species. BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM-approved activity that will contribute to a need to list such a species or their habitat. BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. BLM will not approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the Endangered Species Act as amended, 16 USC 1531 et seq., including completion of any required procedure for conference or consultation.

All geothermal and oil and gas leases in Idaho contain the ESA consultation stipulation. There is also a mandatory cultural resource protection stipulation applied to all leases.

Stipulations to protect other resources, such as GRSG, are developed during the land use planning process. Stipulations must be necessary and justifiable: If a lessee is to be prevented from extracting oil and gas on a lease and the prohibition is not mandated by a specific, nondiscretionary statute such as the ESA, the stipulation is necessary and is to be used. A stipulation is justifiable if there are resource values, uses, and/or users present that cannot coexist with fluid mineral operations, cannot be adequately managed and/or accommodated on other lands for the duration of operations, and provide a greater benefit to the public than that of the fluid mineral operations. If a ground disturbing activity is proposed on the lease during any given year, the authorized officer may modify or waive restrictions if actual conditions do not warrant them.

3.12.1 Conditions within the Planning Area

Oil and Gas

There has never been a single producing oil and gas well in the entire state of Idaho, despite the drilling of over 150 wildcat wells in the state since the early 1900s. As of January 18, 2013, Idaho BLM has four federal oil and gas leases – two are located on split-estate and BLM-administered lands on the Bear Lake Plateau, and two are located on split-estate lands near Gray's Lake in Bonneville County. The leases were issued in 2006 for an initial term of 10 years. No drilling or exploration has occurred on any of the leases nor has any activity been proposed; however, a wildcat well was drilled on private land near the Gray's Lake



leases in 2007. The well was drilled to approximately 11,000 feet without encountering an economically viable hydrocarbon source. Additionally, a company has drilled numerous wells on private lands in the New Plymouth area of southwest Idaho, and is planning to develop a natural gas field. BLM-administered lands are located near this field and have been nominated for leasing, however leasing is being deferred until completion of the Four Rivers RMP. There is no GRSG habitat in this area.

The two leases on the Bear Lake Plateau are located in GRSG habitat and each have the following stipulation (as well as several others not directly related to GRSG):

In order to protect important seasonal wildlife habitat (sage grouse leks, sage grouse brood rearing, sage grouse winter range, and deer winter range), exploration drilling and other development activity will be allowed only during the period from 7/1 to 11/30. This limitation does not apply to maintenance and operation of producing wells. Exceptions to this limitation in any year may be specifically authorized in writing by the Authorized Officer of the BLM.

The Dillon Field Office has 47 active oil and gas leases, none of which are producing, according to LR2000. None of the leases appear to be located in GRSG habitat, however many leases likely contain timing limitations for other wildlife species, as the Dillon RMP shows that much of the field office is covered by stipulations restricting activities during critical seasons for other wildlife species or prohibiting all surface occupancy.

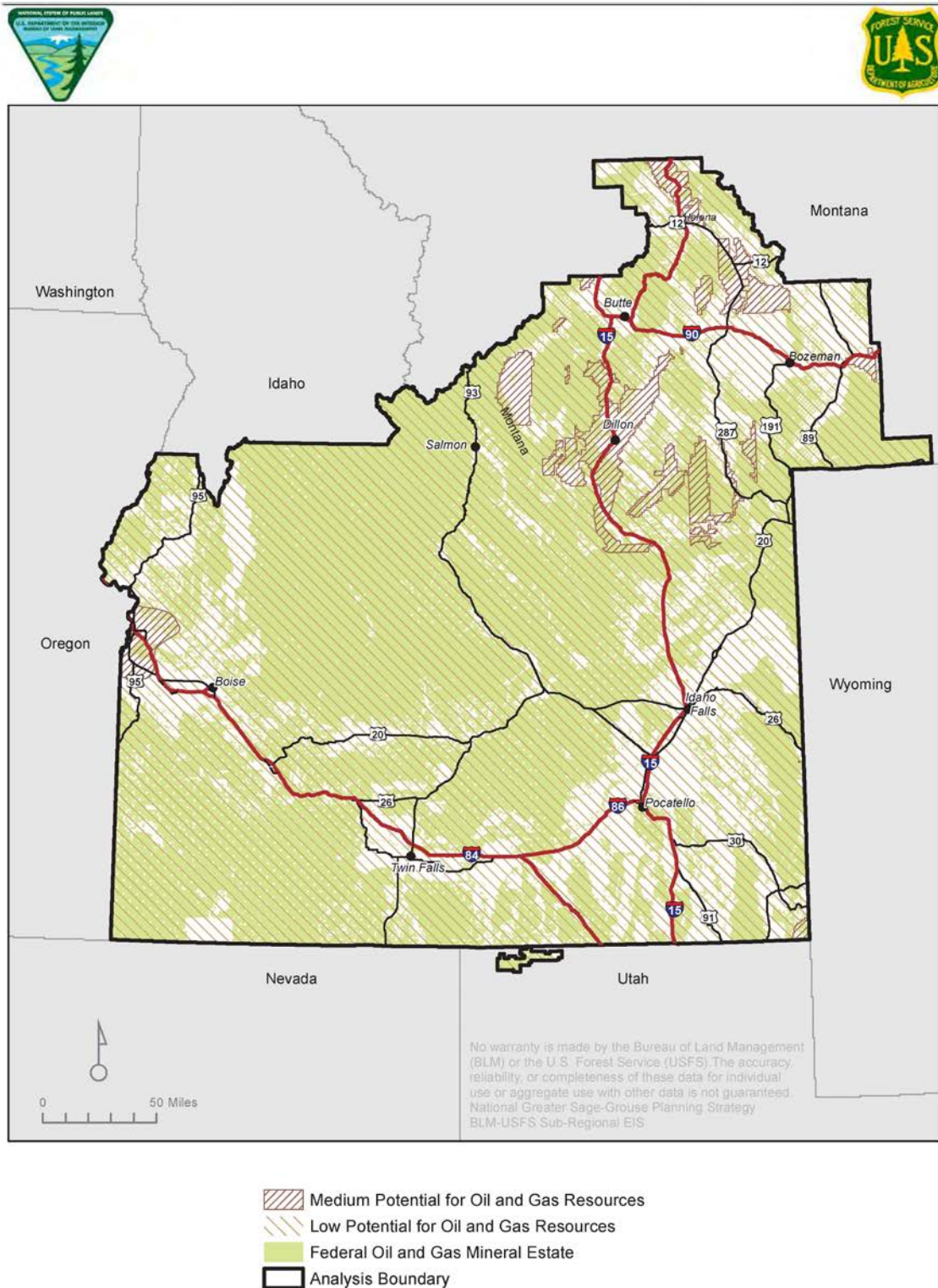
Figure 3-8, Oil and Gas Potential of Federal Oil and Gas Mineral Estate depicts the oil and gas potential within the planning area.

Geothermal

Idaho's prospects for development of geothermal resources are better than those for oil and gas. There are currently 25 federal leases in Idaho, covering approximately 60,000 acres. Leases are scattered across southern Idaho, but are primarily located near Raft River, Crane Creek, and Parma, Idaho. There are no active leases currently in the Dillon Field Office. Seventeen of Idaho's 25 geothermal leases are located in GRSG habitat, and all have existing stipulations protecting GRSG habitat during critical seasons (as well as having stipulations to protect crucial habitat for other species):

- Each of the nine leases at Raft River have a stipulation restricting exploration and development work in GRSG strutting/brood-rearing habitat from April 1 through June 15.
- Each of the four leases at Crane Creek contain a stipulation requiring that a survey be conducted for the presence of active GRSG leks in key habitat, prior to authorization of surface disturbing activities. If active leks are present (defined as being used at least once in a five-year period), two stipulations will apply. One is a timing limitation precluding exploration or drilling activities between March 15 and May 1 from 6 pm to 9 am within two miles of an active lek. The other

Figure 3-8
Oil and Gas Potential of Federal Oil and Gas Mineral Estate



Idaho and Southwestern Montana Sub-Region Greater Sage-Grouse LUPA/EIS
October 2013

stipulation precludes construction of wells, geothermal plants, power lines, pipelines, or other such permanent structures that would fragment or degrade nesting habitat within two miles of an active lek.

- Both of the geothermal leases located west of Weiser have the following stipulations:
 - Controlled surface and timing limitation use near GRSG leks and/or nesting/early brood rearing habitat: Potentially disruptive major construction and maintenance activities (e.g., infrastructure/energy development and similar projects), shall be avoided within 4 miles (6.4 kilometers) of occupied or undetermined status GRSG leks from February 15 to June 30 to reduce disturbance to lekking birds, or April 15 to June 30 for nesting GRSG (and/or hens with early broods). Major construction and maintenance activity will be avoided in GRSG winter range from December 1 to February 15. Specific dates may be earlier or later, depending on local breeding chronology. The spatial buffer may be increased or decreased based on site-specific factors analyzed and documented in an environmental assessment or EIS and authorized via the appropriate decision document. Exceptions may be granted for activities involving only infrequent, short term disturbance (less than 1 hour within a 24-hour period in a specific area); or if there are intervening topographic features or line-of-site screening that buffer the lek or nesting habitat from disturbance; or if recent (within the past 5 years) site-specific studies or local expertise suggest that leks or nesting hens are unlikely to be present within the 4-mile zone surrounding the project activity.
 - For smaller-scale human disturbances, (e.g., water pipeline construction, routine fence maintenance, and facility maintenance), a 0.62 mile (1 kilometer) lek disturbance buffer will apply between approximately March 15 and May 1 in lower elevations and March 25 through May 15 in higher elevations, from 6 p.m. to 9 a.m. in a specific area to minimize disturbance to lekking GRSG.
- The two geothermal leases located on the north side of Magic Reservoir have the same stipulations (concerning GRSG) as the leases west of Weiser.

Geothermal exploration and development activity on federal lands in Idaho has been sporadic, due largely to economic factors. Idaho now has one 10 megawatt geothermal power plant currently operating, as of 2007. It is located on private land at Raft River, south of Burley, Idaho. Nine federal leases surround the plant and extend up the southeast flank of Jim Sage Mountain. The BLM approved five geothermal drilling permits on a lease at Raft River in 2010, however no drilling has occurred to date. The drilling permits have several Conditions of Approval attached to protect wildlife. These include fencing reserve pits and safeguarding migratory birds from hazards associated with pits and treatment facilities, including but not limited to pit screening or netting, and placing protective cones over vent

stacks. In addition, drilling is prohibited during the GRSG strutting and brood-rearing season (lease stipulation).

Figure 3-9, Geothermal Potential of Federal Geothermal Mineral Estate, depicts the geothermal potential of the federal mineral estate in the planning area.

Mineral Materials

Mineral materials include sand, gravel, most building and landscaping stone, pumice, and other common variety materials that are not subject to mineral leasing or location under the mining laws. The Materials Act of 1947, as amended (61 Stat. 681) authorizes disposal of mineral materials on BLM-administered lands through a sales system, and provides for free use of material by government agencies, municipalities or nonprofit organizations, if the material is not to be used for commercial purposes. Permitting the removal or extraction (i.e., disposal) of mineral materials on BLM-administered lands is a discretionary activity. The BLM will not authorize the disposal of mineral materials if it is determined that the aggregate damage to BLM-administered lands and resources would exceed the public benefits that the BLM expects from the proposed disposal; nor will the BLM dispose of mineral materials from areas identified in land use plans as not appropriate for mineral materials disposal (43 CFR 3601.11 and 3601.12). Disposal of mineral materials on Forest Service-administered lands is covered by 36 CFR 228D.

Most BLM-administered land in Idaho is available for consideration of mineral material disposal; however, existing guidance in many of the LUPs in the planning area encourages the use of existing disposal sites until the material is depleted. **Table 3-43**, Existing Mineral Materials Cases¹, shows the numbers of mineral material disposal cases within the planning area. **Figure 3-10**, Mineral Material Commodity Types in the Planning Area, shows the geographic distribution of mineral materials in the planning area.

Table 3-43
Existing Mineral Materials Cases¹

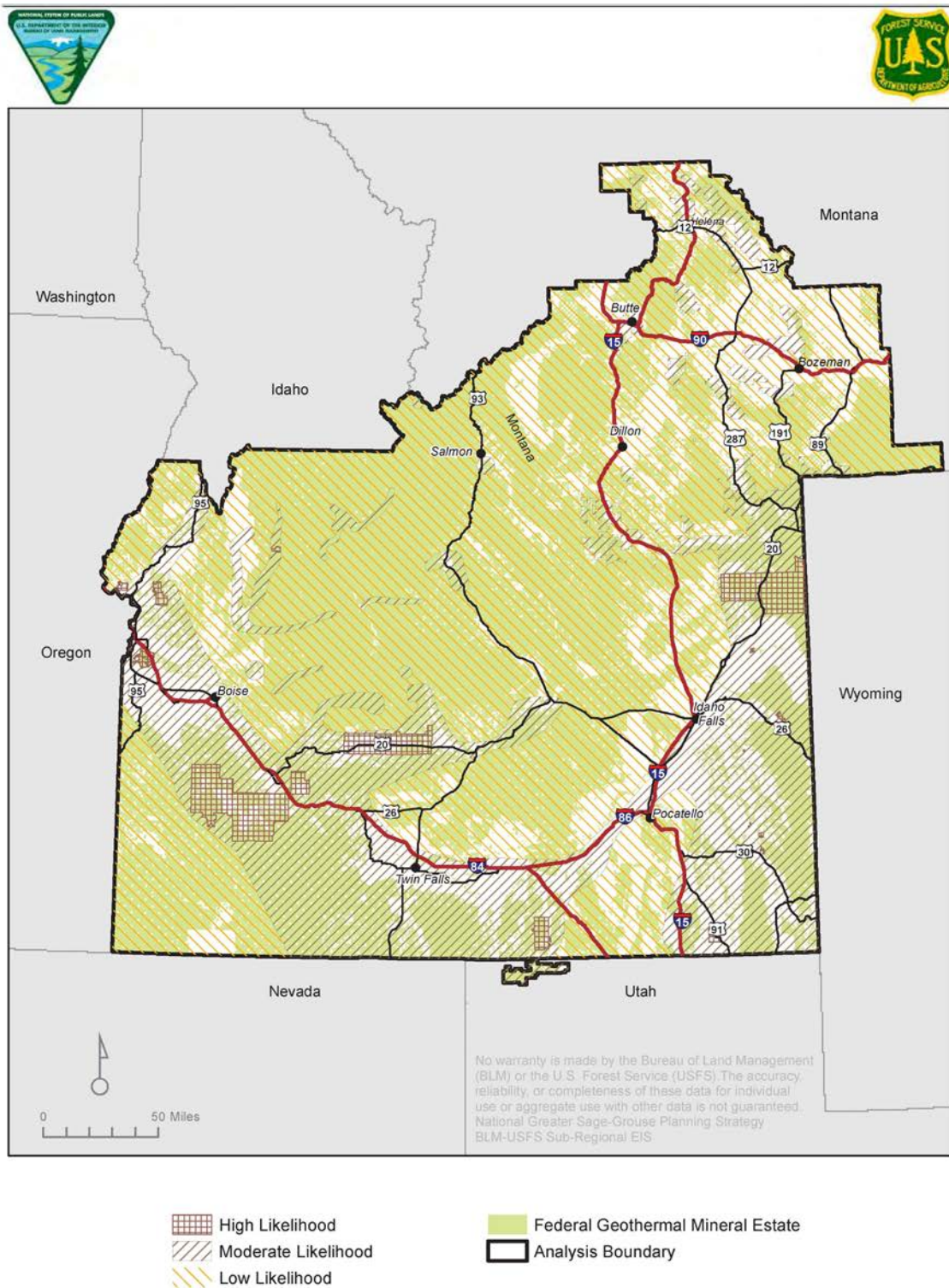
Field Office	# Community Pits	# Free Use Permits	# Negotiated Sales	Total # sites in GRSG Habitat
Owyhee	9	13	2	All, 4 closing
Bruneau	5	10	2	All
Four Rivers	6	43	4	2
Burley	12	31	2	7
Shoshone	17	22	0	9
Jarbridge	9	25	0	4
Pocatello	4	19	0	2
Challis	20	51	5	All
Salmon	6	11	2	All
Upper Snake	17	47	15	56
Dillon, MT.	4	0	1	2
Total	109	272	33	120

Source: BLM 2013

¹ Data as of January 18, 2013

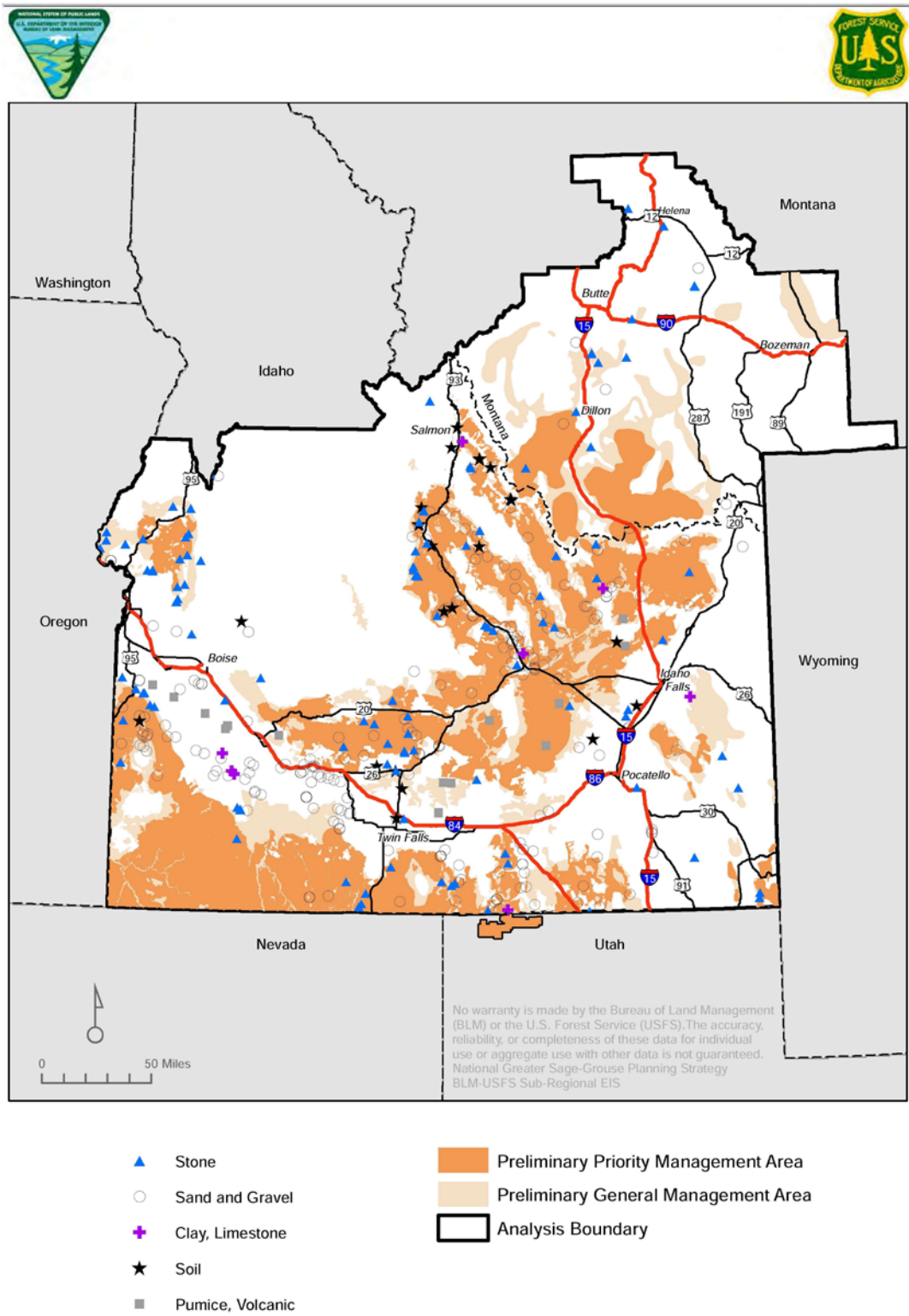


Figure 3-9
Geothermal Potential of Federal Geothermal Mineral Estate



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Figure 3-10
Mineral Material Commodity Types in the Planning Area



Idaho and Southwestern Montana Sub-Region Greater Sage-Grouse LUPA/EIS
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Community pits are sites established by the BLM and Forest Service for the public to acquire mineral materials by purchasing a short-term permit over-the-counter at the field office. Free Use Permits are usually sand and gravel pits, and are requested by county highway districts and nonprofit organizations for road construction and maintenance of county roads. A negotiated sale is an exclusive site proposed by a single party, often commercial, as the party must now pay for the BLM to process the permit.

The number of sales out of a community pit varies by site, from less than one to more than 50 per year. Many of the most popular community pits are for landscaping rock and building stone that is simply picked up by hand from the ground surface or from a talus slope. Most of these sales are for less than one ton. Most Free Use Permit sites are used sporadically and may be scattered throughout a field office or ranger district office, so that when the county needs material it has a nearby source, thereby reducing haul costs. A pit may be inactive for several years before it is needed for a road project in the area.

A gravel pit is initially developed by scraping off the vegetation and topsoil, which is then stockpiled for future reclamation. Most gravel pits are 5 to 15 acres in size. No infrastructure other than an access road is needed for mineral materials disposals. Most mineral material removal activity occurs during the summer months and during daylight hours.

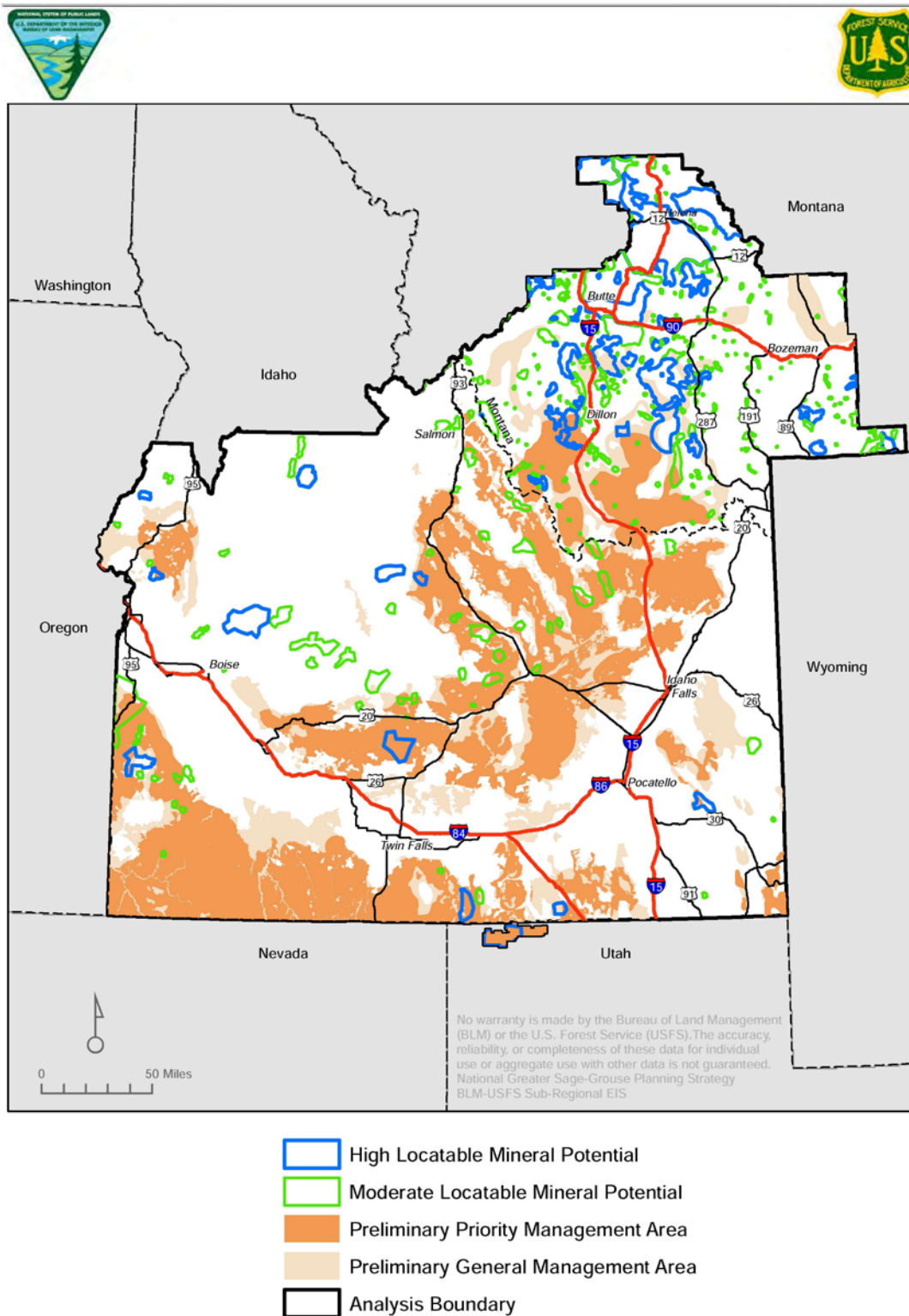
Very few mineral material sites have mitigation measures protecting GRSG habitat. One exception is the St. Anthony Sand Dune Community Pit, which has a provision stating “Proposals to remove sand between March 1st and June 15th will be evaluated to determine if breeding birds are utilizing the area.”

Locatable Minerals

Under the General Mining Act of 1872 (17 Stat. 91), any US citizen, or person with the intent to become a citizen, may stake a mining claim for locatable minerals on federal lands (unless administratively withdrawn from mineral entry). This gives the claimant a possessory right to develop the locatable mineral resource. Lands withdrawn from mineral entry are Wilderness, ACECs, and other specially designated areas. The staking of a mining claim is a nondiscretionary activity: As long as the lands are open to locatable mineral entry, and as long as the claimant maintains the mining claim on an annual basis in accordance with regulations at 43 CFR 3830 through 3838, the mining claim is considered active. If the claimant fails to properly locate or maintain the claim on an annual basis, the claim is forfeited. The BLM's role is limited to recording and adjudicating the location notices and maintenance filings, and preventing undue or unnecessary degradation of the lands under FLPMA. **Figure 3-11**, Locatable Mineral Potential in the Planning Area, shows areas where locatable minerals are considered to be more likely to be found and **Figure 3-12** shows existing Surface Management Plans or Notices in the planning area.

If a claimant wants to perform mining operations other than casual use on BLM-administered lands, a Notice of Plan, filed under 43 CFR 3809, must be filed with the BLM (or 43 CFR 3802, if the claim is located on lands under wilderness review). The Forest Service has similar locatable minerals management regulations at 36 CFR 228A. For

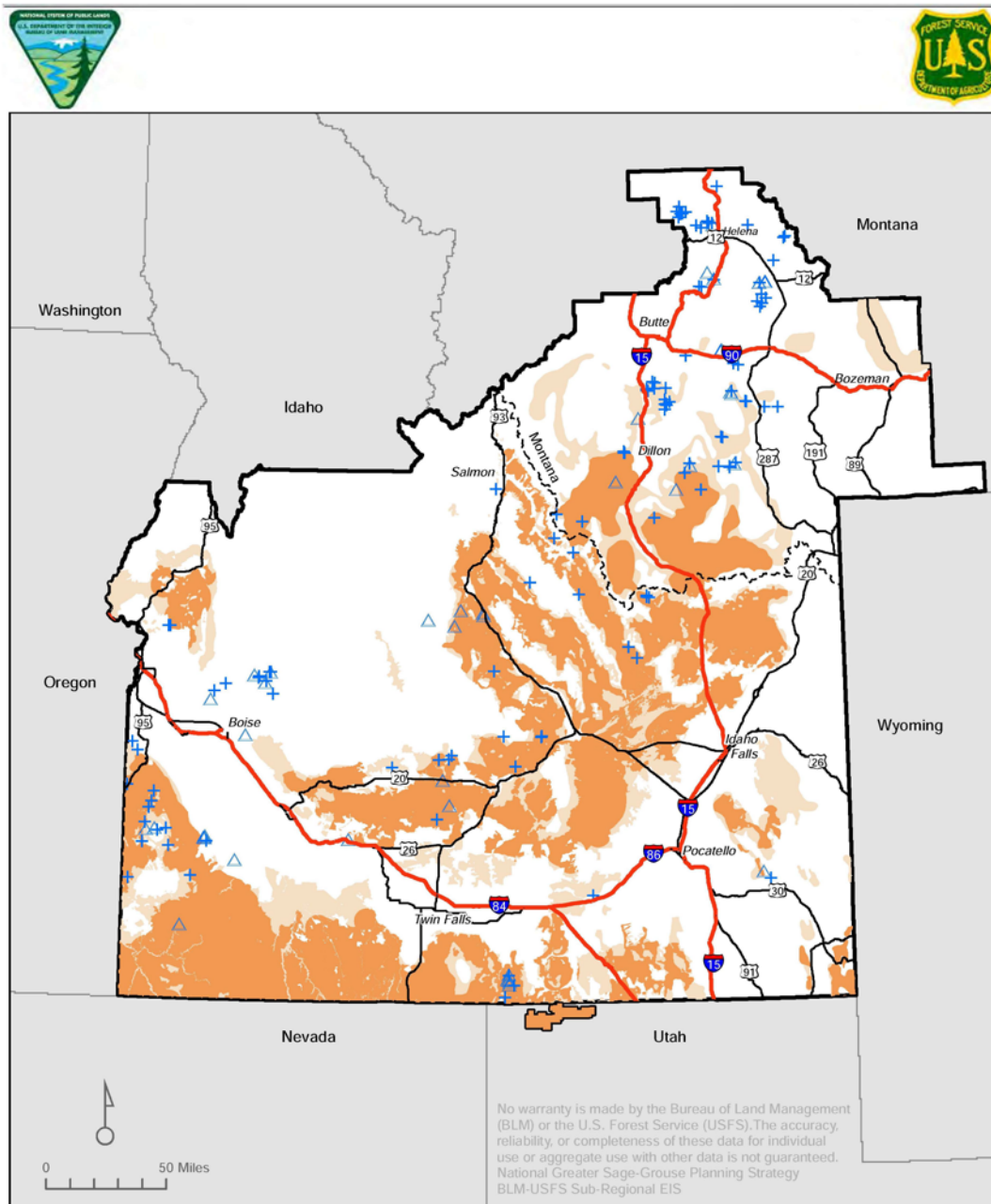
Figure 3-11
Locatable Mineral Potential in the Planning Area



Idaho and Southwestern Montana Sub-Region Greater Sage-Grouse LUPA/EIS
October 2013



Figure 3-12
Existing Surface Management Plans or Notices in the Planning Area



- △ SURFACE MGT- PLAN
- + SURFACE MGT- NOTICE
- Orange box Preliminary Priority Management Area
- Light orange box Preliminary General Management Area
- Black outline Analysis Boundary

operations on Forest Service-administered lands, a Notice of Intent must be filed. In addition, a Plan of Operations is required if the proposed activities will cause “significant disturbance of surface resources” (36 CFR 228.4[a][4]). Where there is a reference to notices or plans, it means both notices or plans on BLM-administered lands and Notices of Intent or Plans of Operation on Forest Service-administered lands. Later in this document, the terms Notice/Notice of Intent or Plan/Plan of Operation are roughly equivalent for the purpose of this analysis. The purpose of these regulations is to prevent unnecessary or undue degradation of surface resources by operations authorized by the mining laws. The subparts establish procedures and standards to ensure that operators and mining claimants meet their obligation to prevent undue or unnecessary degradation and to reclaim disturbed areas.

The existing land use plans identify areas that are closed to mineral entry but are silent on mitigation measures to be taken in GRSG habitat. **Table 3-44**, Authorized or Pending 3809 Plans and Notices¹, shows the numbers of 3809 Plans and Notices that are authorized or pending in the planning area.

Table 3-44
Authorized or Pending 3809 Plans and Notices¹

District	3809 Plans of Operations		3809 Notices		GRSG Habitat?
	Authorized	Pending	Authorized	Pending	
Boise District	13	3	17	4	8 Plans in PH
Twin Falls	4	5	5	4	7 Plans in PH
Idaho Falls	5	1	6	3	4 Plans in PH
Dillon FO	5	1	21	3	No Plans in GRSG Habitat
Total	32	9	28	11	19 Plans in GRSG Habitat

Source: BLM 2013a

¹ Data current as of December 14, 2012

The Boise District currently has eight 3809 Plans in GRSG habitat for mostly small operations for zeolite and bentonite along the Owyhee Front. Three of the plans are located in the Castle Creek drainage south of Oreana (zeolite, bentonite); two plans are located close to the Oregon border near US Highway 95 (both for zeolite); and two plans on the Owyhee Plateau near the Upper Deep Creek area.

The Twin Falls District currently has seven 3809 Plans in GRSG habitat. Six are building stone operations south of Oakley, and one is the Eskridge pumice pit north of Magic Reservoir. At least three companies operate quarries on Middle Mountain south of Oakley, extracting a variety of micaceous quartzite called Oakley Stone. Oakley Stone is highly prized as a building and flooring material, as it has very high tensile strength and can be split into large, thin sheets. Building stone quarry operations have been active on Middle Mountain for over sixty years in the vicinity of active GRSG leks.



The operations are confined to discrete quarries located at mid-elevation on the west slope of Middle Mountain. The quarries expand very slowly over the years, and no infrastructure such as power lines or pipelines are required. Very little mechanical equipment is used, as the stone is split to the desired thickness using only small hand tools such as pry bars, hammers and chisels, and is then placed on pallets by hand. However, operators also use excavators, dump trucks, front end loaders, and other equipment in their daily operations, and blasting is used occasionally. Most of the quarry workers are employed seasonally and are housed on-site, thereby reducing traffic and dust. The quarries are strung out north-south along Middle Mountain such that each quarry has a separate road to access the Goose Creek road, an improved gravel road that leads to Oakley.

During the field season (roughly May to November), semi-truck traffic, hauling pallets of Oakley Stone, can be fairly intense on the Goose Creek road, making 10 to 20 round trips per day. One of the operations has a mill site adjacent to the Goose Creek Road where stone is split and palletized for shipping. All of the operations shut down in the winter, so in the fall pallets of stone are brought off the mountain and stockpiled in Oakley. Several of the quarries have been patented and are therefore privately owned. No stipulations pertaining to GRSG are currently applied to the Plans of Operations for any of these quarries. Altogether, the quarries employ approximately 100 people year-round and approximately 600 seasonal workers (Southern Idaho Living 2012).

The Eskridge pumice pit is located north of Magic Reservoir, on both sides of US Highway 20. The mining claimants have mined pumice for landscaping material since the 1940s. Current operations are located on the south side of the highway, where disturbance consists of 15 acres of quarry and staging area. A few years ago, the claimant moved the operation from the north side of the highway, and reclaimed (sloped and seeded) 34 acres of previous disturbance. The operation is active throughout the year, but activities rotate approximately every 3 years, depending on demand for the material. In the first year of the cycle, bulldozers are used to rip the material from the quarry face. In the second year, the material is classified based on size and color, and stockpiled. In the third year, the stockpiles are loaded into belly dump trucks and transported to Gooding, where it is loaded onto train cars and shipped to Rexburg, where it is sold.

The Idaho Falls District currently has four 3809 Plans located in GRSG habitat, all in the Challis Field Office. Two plans are for building stone (including Three Rivers Stone) and 2 are for zeolite. The Three Rivers Stone quarry is a large building stone quarry operation situated along the south side of US Highway 93, east of the confluence of the East Fork and the Main Salmon rivers. The quarry is operated in a similar manner as those on Middle Mountain: The stone (a variegated argillaceous quartzite) is split into thin sheets using hand tools and is palletized at the quarry. The pallets are hauled to the mill site adjacent to the highway, from which they are shipped. At peak production in 2007, there were 99 people employed by the quarry's operator, L&W Stone. In January, 2013, however, the company announced that it would be shutting down production at the quarry while it undergoes bankruptcy proceedings.

In the Dillon Field Office, there are currently no 3809 Plans located in GRSG habitat. Eight out of twenty-four 3809 Notices are in GRSG habitat.

On the Raft River division of the Sawtooth National Forest in Utah, there are several quarries of building stone. They are located on the southern slopes of the Raft River Range, in GRSG habitat.

Nonenergy Solid Leasable Minerals

The Pocatello Field Office has a large nonenergy solid leasable mineral program, as the phosphate resource in southeast Idaho is significant. The goal in the Pocatello RMP is to manage the federal mineral estate while minimizing adverse impacts on resource values. The 2012 Pocatello RMP does not have any stipulations or minerals guidance for nonenergy leasable minerals which specifically address GRSG.

Phosphate has been mined in southeast Idaho for over one hundred years. Of the 86 federal phosphate leases that BLM administers in Idaho, only ten are located in GRSG habitat. These are located primarily north and west of Blackfoot Reservoir. None of these leases have had active mining operations on them, nor is any mining planned on the leases in the next 5 to 10 years. Most of the leased acreage around Blackfoot Reservoir is split-estate (privately owned or state-owned surface with federal minerals). The Trail Creek and Caldwell Canyon leases, located in GRSG habitat east of Conda Mountain, are currently undergoing drilling. One additional lease is located in priority GRSG habitat northwest of Bear Lake near Paris, Idaho. Exploration drilling was conducted in 2012 on lease, and on the private lands and unleased split-estate lands surrounding the small lease. Timing restrictions for GRSG were applied to the approval for the drilling. If developed, this property would likely be developed as an underground mine, due to geologic factors. The Dillon Field Office has one nonenergy solid leasable lease, for phosphate. It is not located in GRSG habitat.

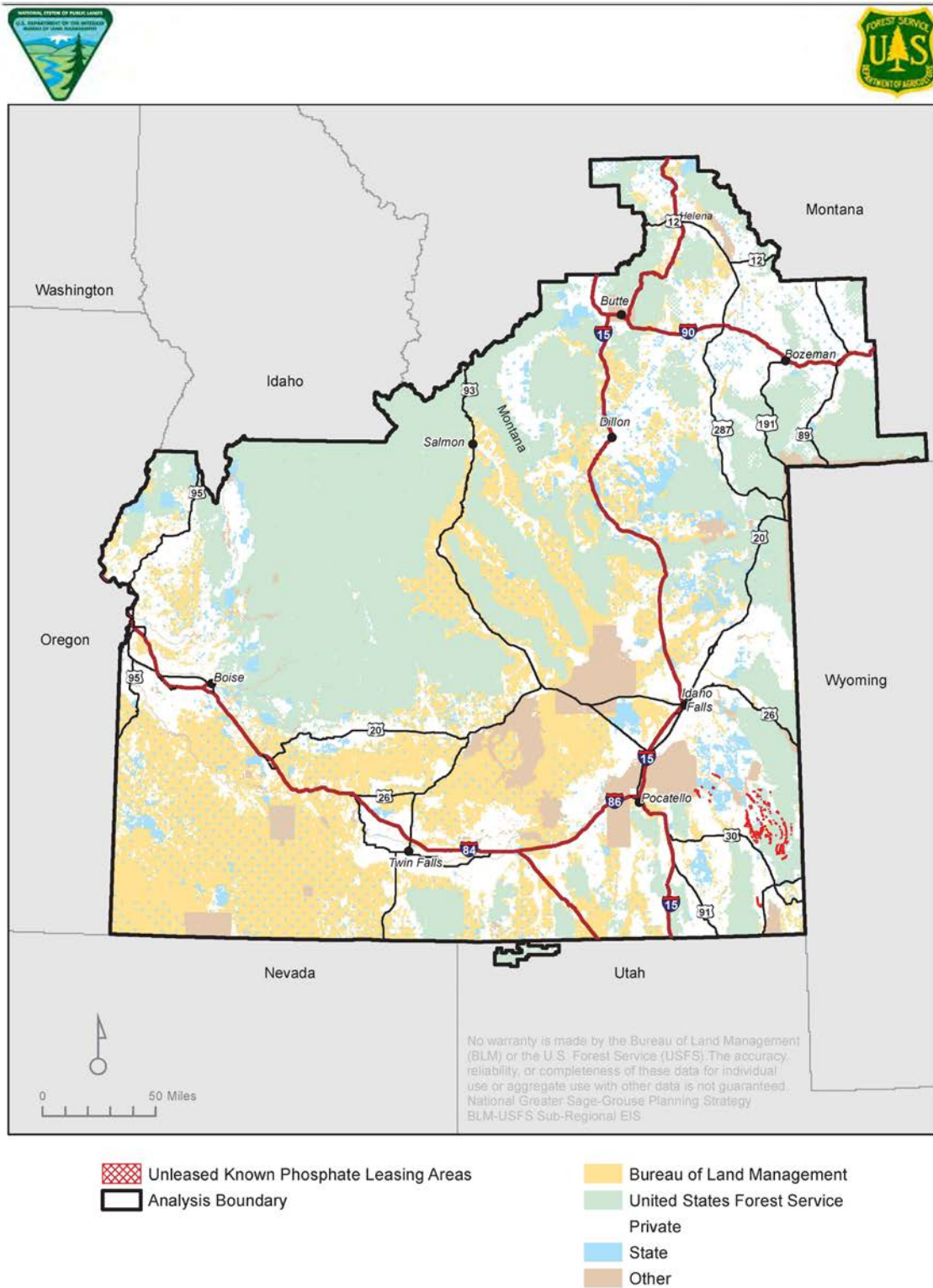
Figure 3-13, Unleased Known Phosphate Leasing Areas, shows gas potential within the planning area.

Coal

No economically viable coal resources have ever been discovered in Idaho, and most plans are silent on the subject. The Dillon RMP states its goal is to make coal resources available on a site-by-site basis. A plan amendment would be required to lease coal, along with the appropriate level of NEPA analysis. No specific mitigation measures for GRSG are identified in any of the land use plans. Coal mining is regulated in accordance with the Surface Mining Control and Reclamation Act of 1977 (30 USC 1201 et seq.). BLM's coal mining regulations are found at 43 CFR 3400. According to 43 CFR 3420.1-4 (e)(1), only those areas that have development potential may be identified as acceptable for further consideration for leasing. As there is no development potential in the planning area, the lands are determined to be unsuitable for leasing. For this reason, the impacts on GRSG from the development of a coal resource will not be discussed further in this document.



Figure 3-13
Unleased Known Phosphate Leasing Areas



3.12.2 Trends

Oil and Gas

Interest in oil and gas leasing in Idaho has been sporadic over time, and it is expected to remain so. Many leases were held in the 1970s and 1980s throughout much of Idaho, when leasing was done under a noncompetitive system. After passage of the Federal Oil and Gas Royalty Management Act in the early 1980s, leasing became a competitive process, and BLM's standards for leasing became more rigorous. Lease nominations dropped dramatically in Idaho and for many years, BLM's oil and gas program in Idaho was nonexistent. With passage of the Energy Policy Act in 2005, Idaho BLM experienced an uptick in leasing interest, with over 400,000 acres of federal land nominated since that time¹⁰.

Interest in leasing is currently high in the Payette area, due to the recent wildcat discovery of natural gas and planned development in that area (181,000 acres nominated for leasing, overlapping). Much of the land nominated for leasing is split estate, and only the northernmost nominated parcels are located in GRSG habitat. The Bear Lake area has been nominated for leasing by several parties, most recently in 2012 (59,700 acres, overlapping acreage). Interest in leasing the Bear Lake Plateau was at its highest in the early 1980s, when a discovery of gas was made 10 miles south of the Idaho/Utah state line, and in adjoining areas in Wyoming. Several wells were drilled in Idaho at that time, but were reported to be dry. Other areas that have been nominated for leasing recently include approximately 90,000 acres in Twin Falls County, south of Rogerson, and approximately 60,000 acres in Clark County, on the Idaho-Montana border in the Targhee National Forest. All of these nominated lands have GRSG habitat.

Several geophysical surveys have been conducted recently in the Payette area (two-dimensional and three-dimensional seismic surveys). It is likely that additional geophysical surveys will be conducted in the planning area. Seismic reflection surveys are the most commonly used geophysical tool. Very little surface disturbance is associated with a seismic survey, as no excavating or drilling is involved. All that is required is a seismic energy source and an array of receptors. The most common type of survey seen in Idaho involves mechanically vibrating or "thumping" the ground using truck-mounted equipment. This creates seismic waves that are recorded by a series of receptors placed on the ground surface along a three- to five-mile line. This process requires a crew of about 10 to 15 people and 5 to 7 vehicles. No reclamation is usually required.

Despite the occasional interest in leasing in Idaho, no drilling permits have ever been filed on BLM-administered lands in Idaho. This trend is expected to continue, however, for the sake of this analysis, a description of the drilling process is included in this report, since the issuance of a lease commits those lands to the possibility of exploration and development of the oil and gas resource. Exploration drill holes for oil and gas range in depth from a few thousand feet to many thousands of feet, but in much of Idaho would probably be 7,000 to 11,000 feet deep. These wells are 30 inches in diameter or larger at the surface, then narrow

¹⁰ Some of this acreage overlaps, due to multiple nominations for the same land



(telescope) to 12 inches at the bottom of the well. In order to drill these deep, large-diameter holes, a large drilling rig would be utilized. The top of the drill rig derrick could be as much as 155 feet above the ground surface, and the rig floor could be at least 25 feet above the ground surface. These rigs are typically equipped with diesel engines, fuel and drilling mud storage tanks, mud pumps, and other ancillary equipment. Blow-out prevention equipment would be utilized while drilling to prevent uncontrolled flow at the surface if a pressurized hydrocarbon deposit is encountered.

Temporary roads would likely be needed to transport and maintain the drill rig and other heavy equipment. Either existing roads would be improved or new roads would be constructed to accommodate the traffic. Typically, roads are constructed with a 20-foot wide graveled running surface with adjacent ditches and berms, for a total disturbance width of about 40 feet. It may be necessary to haul in gravel to obtain a good road base, as well as a base for the well pad. Based on the road density in the planning area, it is assumed that access to the drill pads may require up to one mile of road construction or improvement. Surface disturbance from construction of one mile of road equals about five acres.

Getting the rig and ancillary equipment to the site may require 15 to 20 trips by full-sized tractor-trailers, with a similar amount for de-mobilizing the rig. There would be 10 to 40 daily trips for commuting and hauling in equipment. Drilling operations would likely occur 24 hours a day and 7 days a week. It takes approximately one month to drill one well. A drilling operation generally has from 10 to 15 people on-site at all times, with more people coming and going periodically with equipment and supplies.

During this exploratory or wildcat phase of drilling, it is likely that a drill pad, to accommodate the rig and equipment, would be required at each well location. A drill pad is usually 2.5 acres in size (300 feet by 350 feet), but it can vary considerably due to the depth of the target zone, surface topography, and equipment needs for various drilling methods. In order to obtain a level pad, cut and fill of the site may be required. Topsoil would first be removed from the well pad site and stored on site for reclamation. In addition to the drill rig, the well pad may house a reserve pit for storage or disposal of water, drill mud, and cuttings; several mud pits and pumps, a tool shed, drill pipe rack, a fuel tank, a water tank, a generator and several compressors, equipment storage, and several trailers for temporary lab and office quarters. Depending on the contents of the reserve pit and environmental sensitivity of the site, it may be lined or unlined.

Well drilling also requires water. As much water as possible is recycled on site, yet about 5,000 to 15,000 gallons of water may be needed each day depending on well conditions. Initially, water would need to be provided, either by wells or trucked in, to meet demands. Many oil or gas wells encounter water at depth when drilling for oil and/or gas and can be utilized when production is ongoing. Any water rights required would likely need to be filed in the name of the BLM.

Various tests are then run down the hole and data is collected to determine whether the well is capable of production. At the conclusion of well testing, if paying quantities of oil and gas are not discovered, the operator is required to plug the well according to federal and state

standards. Cement plugs are placed above and below water-bearing units with drilling mud placed in the space between plugs. When abandonment is complete, the site is reclaimed, which includes pad and road recontouring, topsoil replacement, and seeding with approved mixtures. Erosion control measures would be incorporated into the reclamation design as needed.

The drilling site could be active for approximately 1 year, from the start of drill pad and access road construction; through drilling and well testing; to completion of production facilities or plugging the hole and reclamation of the surface, which usually involves removing all infrastructure, disposal of any waste generated, reshaping pads and roads, and re-seeding. The total surface disturbance expected from the drilling of a single exploratory well and the construction of one mile of access road is approximately eight acres.

If a producible quantity of oil or gas is discovered, additional development wells would be drilled to confirm the discovery, establish the limits of the field, and drain the field. Depending on the field characteristics, well spacing may be from 40 to several hundred acres per well.

The speed at which a field is developed is dependent on the anticipated productivity. It may take from 1 to 3 years to fully develop an oil or gas field. Large fields with several operators may be unitized to reduce surface impacts. In addition, directional drilling may allow for drilling more than one well per pad.

During field development, the road system may be greatly expanded. Temporary roads are usually improved to accommodate more traffic and increased duration of use. Improvements may include crowning, capping, and implementing additional erosion controls. New roads would also be constructed. Depending on well location and topography, a main access road is built with smaller secondary roads running to each pad. In addition to roads, other facilities may also be installed including power lines, tank farms, pipelines, oil/water separators, and injection wells.

Where oil and gas flow to the surface naturally, control valves and collection pipes are attached to the well head. Otherwise pumps are installed. Oil is typically produced along with water and gas. Separation facilities are constructed on site to remove water, carbon dioxide, and hydrogen sulfide. The oil and natural gas are then separated. Water, usually saline, is disposed of either through surface discharge, evaporation ponds or re-injection into the producing formation.

If gas is present in economic quantities and a pipeline is located within close proximity, a network of pipelines would likely be constructed to collect and transport the gas. If not, gas would likely be re-injected into the reservoir. Oil would be collected in a similar manner and stored in tanks in a central location. Well operators would likely have service operations (e.g., cementing, logging, bits, and testing) provided by established oil field service companies in Wyoming or Utah.



The producing life span of an oil or gas field varies depending on field characteristics. A field may produce for a few years to many decades. Commodity price, recovery technique, and the political environment also affect the life of a field. Well abandonment may begin as soon as it is depleted, or it may be rested for a period of time and put back into production.

Geothermal

Interest in geothermal is sporadic in Idaho, depending on factors such as the economy, political climate, government incentive programs, such as the renewable energy tax credit, and technological advances. It is anticipated that drilling will occur on federal leases at Raft River over the next 10 to 15 years, and that an additional power plant would be constructed, likely on private lands, but with wells on federal land.

Mineral Materials

Demand for mineral materials is expected to remain fairly steady, although the collapse of the housing industry in 2008 definitely resulted in fewer sales throughout the planning area. The implementation of full cost recovery for individual sales has caused a decline in that case type.

Locatables

While Idaho's mining claim numbers fluctuate with the price of gold, the number of plans and notices remains fairly steady. Production of building stone in the Middle Mountain area remains steady, however it was recently reported that L&W Stone's Three River Stone quarry near Clayton has been shut down due to bankruptcy. Several Plans of Operations are in the approval process on Middle Mountain.

Nonenergy Solid Leasable Minerals

Demand for phosphate remains high, and the companies that mine in southeast Idaho continue to develop new mines as old ones are reclaimed and remediated. There is no indication that the leases west of Soda Springs in GRSG habitat will be developed in the foreseeable future. It is anticipated that, over the next 10 years, new mines will be developed on phosphate leases at Dairy Syncline, Husky/Dry Ridge, Caldwell Canyon, and Trail Creek, as current mines are depleted of ore and are reclaimed. Only the Caldwell Canyon and Trail Creek leases are located in GRSG habitat. Both of these leases are located primarily on split estate lands: at Caldwell Canyon, the majority of the surface estate is privately owned (1,200 acres), with only 160 acres on BLM-administered lands; the Trail Creek lease is composed of a mix of state and private surface estate. In the spring of 2013 it was announced that a company plans to open an underground operation near Paris, Idaho, on patented lands in GRSG habitat. The announcement stated that initial development would not involve federal minerals; however, exploration drilling occurred on federal minerals in 2012.

Coal

It is highly unlikely that any coal exploration or development will occur in the planning area.

3.13 Special Designations

Within the planning area are a variety of lands set aside through congressional or administrative action to protect certain values, such as Wilderness, Wilderness Study Areas,

National Landscapes, National Scenic and Historic Trails, and Wild and Scenic Rivers (**Figure 3-14**, Special Designations in the Planning Area).

3.13.1 Areas of Critical Environmental Concern (ACEC)

An ACEC is defined in FLPMA, Section 103(a), as an area on BLM-administered lands where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and ensure safety from natural hazards. BLM regulations for implementing the ACEC provisions of FLPMA are found in 43 CFR 1610.7-2(b).

ACECs differ from some other special management designations in that designation by itself does not automatically prohibit or restrict other uses in the area. The special management attention is designed specifically for the relevant and important values and, therefore, varies from area to area. Restrictions that arise from an ACEC designation are determined at the time the designation is made and are designed to protect the values or serve the purposes for which the designation was made. The BLM identifies goals, standards, and objectives for each proposed ACEC as well as general management practices and uses, including necessary constraints and mitigation measures. In addition, ACECs are protected by the provisions of 43 CFR 3809.1-4(b)(3), which requires an approved plan of operations for activities resulting in more than 5 acres of disturbance under the mining laws.

Research natural areas are areas where natural processes are allowed to predominate, and that are preserved for the primary purposes of research and education. Under current BLM policy, research natural areas must meet the relevance and importance criteria of ACECs and are, therefore, designated as ACECs. Under current guidelines, ACEC procedures also are used to designate outstanding natural areas.

There are portions of fifty two Idaho and 7 Montana ACECs in the planning area that overlap occupied GRSG habitat (see **Figure 3-15**, Existing Areas of Critical Environmental Concern with Preliminary Priority and General Habitat). Refer to **Table 3-45**, BLM Areas of Critical Environmental Concern, which summarizes the acres of ACECs within GRSG habitat and the identified relevant and important values for each. None of the existing ACECs were designated solely for the purpose of protecting GRSG habitat.

As part of this effort, the BLM called for and received nominations for ACECs to protect GRSG. A BLM interdisciplinary team reviewed nominations to determine which areas meet the relevance and importance criteria, as defined by 43 CFR 1610.7-2(a)(1), and 43 CFR 1610.7-2(a)(2), and guidance in BLM Manual 1613, Areas of Critical Environmental Concern. Details of the process and information on those areas found to meet the relevance and importance criteria can be found in **Appendix H**, BLM ACEC Evaluation and Forest Service Zoological Areas.



Figure 3-14
Special Designations in the Planning Area

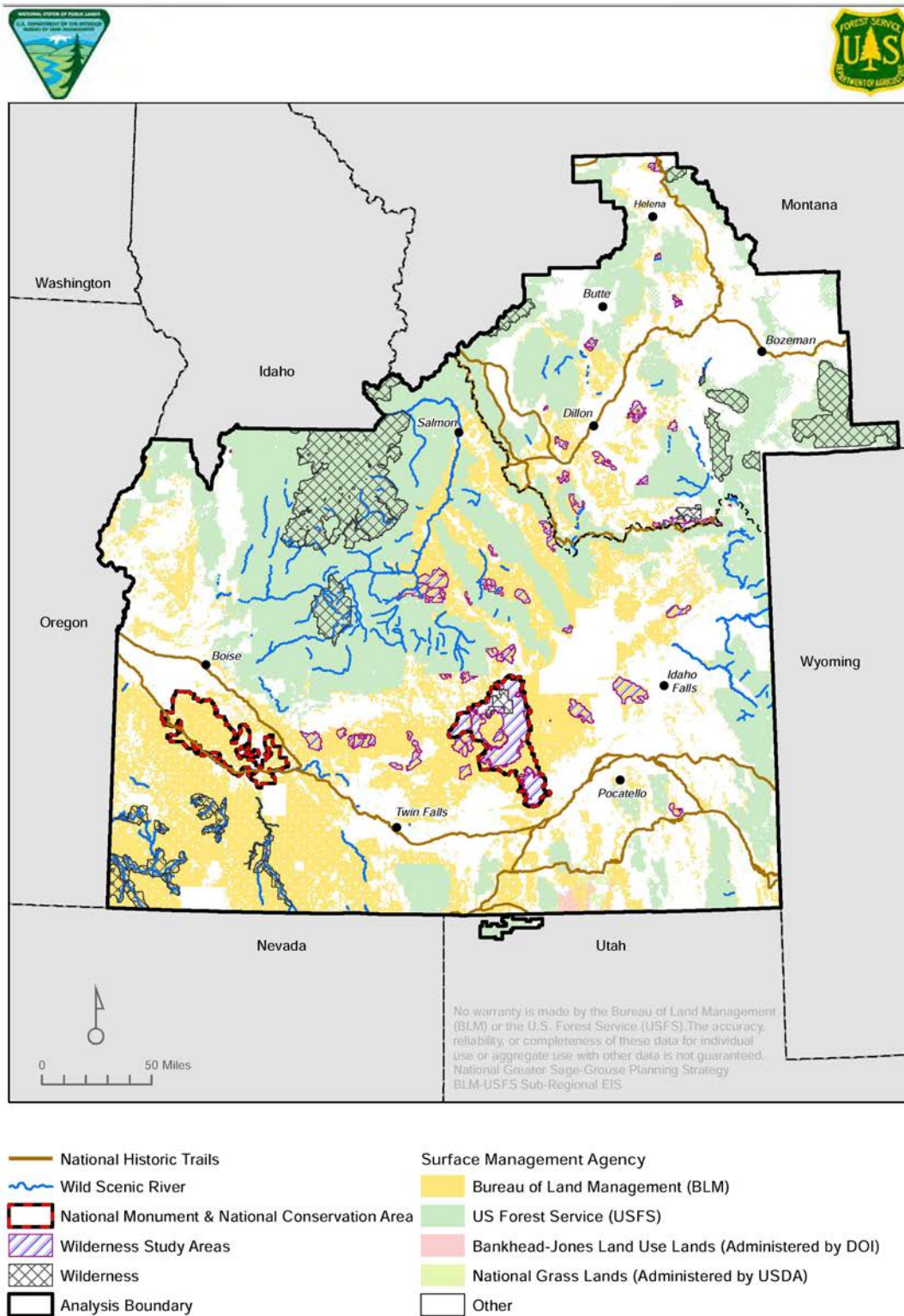
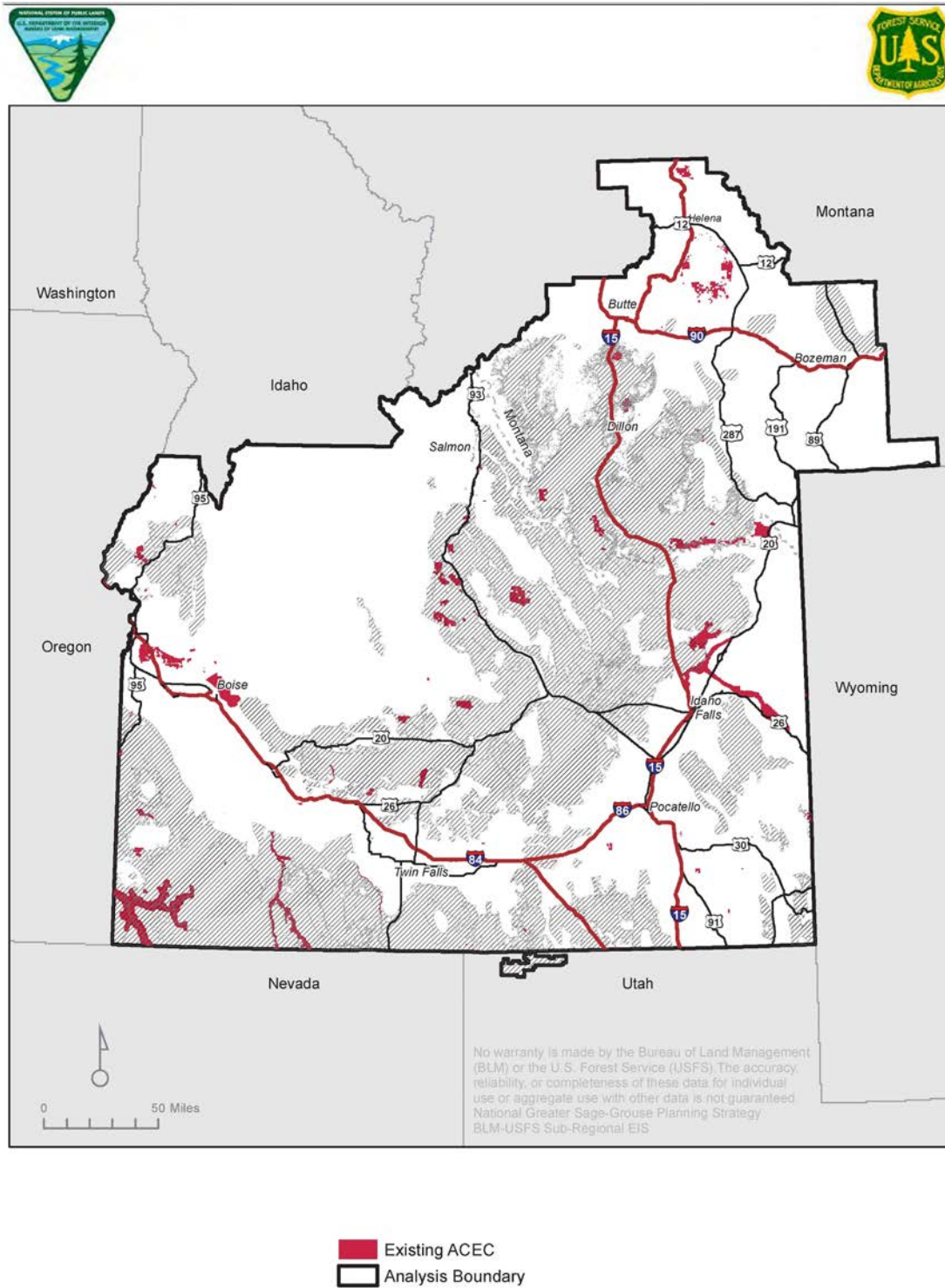


Figure 3-15
Existing Areas of Critical Environmental Concern with Preliminary Priority and General Habitat



Idaho and Southwestern Montana Sub-Region Greater Sage-Grouse LUPA/EIS
October 2013



Table 3-45
BLM Areas of Critical Environmental Concern

ACEC Name	State	Total Acres	Acres in PPH	Acres in PGH	Values
Antelope Flat RNA	Idaho	589	589	0	Unusual and uncommon plant communities
Big Beaver	Idaho	7,217	0	7,082	Natural Features (Elk Habitat)
Birch Creek	Idaho	8,640	4,164	4,455	Crucial winter range and lambing habitat for bighorn sheep. Rare plants.
Block Mountain	Montana	8,587	0	544	Geologic Resources
Boulder Creek	Idaho	6,976	4,183	874	Scenic and multiple natural resource values
Bruneau/Jarbridge River	Idaho	85,263	38,745	39,972	Cultural, Geological, Scenic, and Natural Features (Big Horn Sheep Habitat)
Buckwheat Flats RNA	Idaho	185	185	0	Special Status Plants
Centennial Mountains	Montana	40,440	12,999	0	Wildlife Resources – grizzly bear, lynx & wolf
Centennial Sandhills	Montana	1,035	1,035	0	Geological and Botanical Resources
China Cup Butte RNA	Idaho	159	159	0	Geological values.
Cinnabar Mountain	Idaho	278	0	229	Valuable Range Reference Area, Scenic Values, Special Status Animals including GRSG
Coal Mine Basin	Idaho	2,392	1,605	0	Special Status Plants and animals (only mentions that GRSG are present), scenery, paleontological resources
Cottonwood Creek	Idaho	326	326	0	Riparian Vegetation, redband trout, bighorn sheep, and scenic quality
Cronk's Canyon	Idaho	1,126	1,126	0	Wildlife and botanical resources. Relict bighorn sheep population. Pristine natural plant communities.
Cronk's Canyon RNA	Idaho	366	366	0	Wildlife and botanical resources. Relict bighorn sheep population. Pristine natural plant communities.
Dairy Hollow RNA	Idaho	44	44	0	Geological and botanical resources.
Donkey Hills	Idaho	29,726	15,380	9,277	Wildlife resources – crucial elk habitat.

Table 3-45
BLM Areas of Critical Environmental Concern

ACEC Name	State	Total Acres	Acres in PPH	Acres in PGH	Values
Dry Gulch RNA	Idaho	540	540	0	Botanical resources – unusual plant communities; several rare plant populations.
East Fork Salmon River Bench RNA	Idaho	78	78	0	Botanical resources – remnant pristine vegetation.
Elk Mountain	Idaho	7,791	7,540	251	Natural Features (Elk Habitat)
Everson Creek	Montana	8,772	8,772	0	Archaeological Resources
Geoff Hogander/Stump Creek	Idaho	2,474	0	2,453	Exceptional ecological communities
Goodrich Creek RNA	Idaho	389	0	389	Exceptional ecological communities
Goose Creek Mesa	Idaho	104	104	0	Natural Features (Vegetation)
Granite Pass	Idaho	294	86	0	Historic and Cultural Features
Herd Creek Watershed	Idaho	16,884	13,413	990	Botanical, fish and visual resources. Riparian recovery and demonstration area. Presence of rare plants. Variety of high elevation range and forest plant communities. Known spawning and rearing habitat for special status steelhead trout, bull trout, and Chinook salmon. Roadless/primitive and scenic values.
Herd Creek Watershed RNA	Idaho	1,056	278	0	Same as Herd Creek Watershed.
Hixon Columbia Sharp-Tailed Grouse Habitat	Idaho	11,238	682	6,347	Wildlife resources - Columbia Sharp-Tailed Grouse habitat.
Humbug Spires	Montana	8,374	0	23	Outstanding scenic qualities and diverse upland and aquatic habitat for plants, animals and fish.
Jim Sage Canyon	Idaho	655	491	153	Natural Features (Vegetation)



Table 3-45
BLM Areas of Critical Environmental Concern

ACEC Name	State	Total Acres	Acres in PPH	Acres in PGH	Values
Jump Creek Canyon	Idaho	613	100	335	Riparian Communities
King Hill Creek	Idaho	2,844	1,336	601	Scenic and Natural Features (Redband Trout and Riparian)
Lone Bird	Idaho	9,967	9,967	0	Cultural and botanical resources. Numerous and unique cultural resources. Rare plants.
Malm Gulch/Germer Basin	Idaho	5,643	4,399	1,065	Botanical, paleontological, geologic resources. Concentration of rare plants, unusual plant communities. Petrified forest. Fragile soils.
Malm Gulch/Germer Basin RNA	Idaho	2,183	1,860	323	Same as Malm Gulch/Germer Basin
McBride Creek	Idaho	262	262	0	Special Status Plants
McKinney Butte	Idaho	3,758	2,214	0	Geological, Scenic, and Natural Features (Bats, Unusual plants, and invertebrates)
Muddy Creek/Big Sheep Creek	Montana	13,053	12,374	0	Cultural Resources
Nine Mile Knoll	Idaho	40,680	18,107	678	Big game wildlife values.
North Fork Juniper Woodland	Idaho	4,203	0	280	Montane Western Juniper and Special Status Plants and Animals
North Menan Butte	Idaho	781	630	151	Geological values.
North Menan Butte RNA	Idaho	344	329	15	Geological and botanical values.
Oregon-California Trail Junction	Idaho	522	0	521	Historic and Cultural Features
Owyhee River/Bighorn Sheep	Idaho	198,121	152,783	45,339	Wildlife resources - bighorn sheep habitat
Peck's Canyon RNA	Idaho	783	783	0	Botanical resources – excellent condition plant communities.
Pennal Gulch	Idaho	5,817	5,522	226	Botanical resources – rare plants; unique riparian area; unique and representative vegetation.
Pine Gap RNA	Idaho	237	236	2	Botanical resources – rare plant <i>Cryptantha caespitosa</i> .

Table 3-45
BLM Areas of Critical Environmental Concern

ACEC Name	State	Total Acres	Acres in PPH	Acres in PGH	Values
Playas	Idaho	38	38	0	Natural Features (Davis Peppergrass)
Pleasant Valley Table	Idaho	1,468		1,468	Botanical resources - excellent examples of Owyhee sagebrush-Sandberg bluegrass and low sagebrush-Idaho fescue communities
Rebecca Sand Hill RNA	Idaho	339		338	Special Status Plants
Salmon Falls Creek Canyon	Idaho	5,129	567	889	Pristine, Scenic, and Natural Features
Sand Hollow RNA	Idaho	3,334	3,334	0	Geological and botanical resources – fragile watershed, rare plant populations; geological area of interest.
Sevenmile Creek	Idaho	1,033	956	0	Natural hazard due to unstable nature of the soils and considerable slumps that occur.
Snake River	Idaho	20,833	4,043	686	Botanical, Wildlife, Fish, Recreation, Scenic Resources-Extensive cottonwood riparian-wetland ecosystems, multiple listed species, world class fishery, visual class 1 areas.
Sommercamp Butte	Idaho	438	268	170	Botanical resources - good ecological condition of Mountain Mahogany-bluebunch wheatgrass communities
Squaw Creek	Idaho	146	112	33	Low elevation Wyoming sagebrush-bluebunch wheatgrass communities
Summit Creek ACEC	Idaho	112	112	0	Botanical Resources- Unique wetland system; rare plants; special recreation values.



Table 3-45
BLM Areas of Critical Environmental Concern

ACEC Name	State	Total Acres	Acres in PPH	Acres in PGH	Values
Summit Creek RNA	Idaho	187	187	0	Botanical and Recreational Resources -Unique wetland system; rare plants; special recreation values.
Tee-Maze	Idaho	10,736	10,537	112	Geological, Scenic, and Natural Features (Bats, Unusual plants, and invertebrates)
The Badlands	Idaho	1,834	982	853	Scenic Values and Diverse Botanical Features
The Tules RNA	Idaho	114	15	99	Outstanding Geologic Features and Special Status Plants
Thousand Springs	Idaho	600	436	147	Botanical and Wildlife Resources-Unique wetland ecosystem; high value for waterfowl.
Thousand Springs RNA	Idaho	231	231	0	Botanical and Wildlife Resources-Unique wetland ecosystem; high value for waterfowl.
Travertine Park	Idaho	184	184	0	Botanical resources.
Travertine Park RNA	Idaho	23	23	0	Botanical resources.
Triplet Butte	Idaho	311	7	304	Undisturbed vegetation communities, cultural resources, bighorn sheep, and scenic quality
Virginia City Historic District	Montana	483	0	238	Cultural Resources

Source: BLM 2013a

3.13.1 Wilderness

BLM

In 1964, the Wilderness Act (the Act) established the National Wilderness Preservation System to be managed by the Forest Service, National Park Service, and USFWS. In 1976, with the passage of the FLPMA, Congress made the BLM the fourth agency with wilderness management authority under the Wilderness Act.

Section 4(b) of the Act further sets forth the agencies' responsibilities in administering wilderness areas and states that the preservation of wilderness character is the primary management mandate. In the relevant part, the Act states: "Except as otherwise provided in

this Act, each agency administering any area designated as wilderness shall be responsible for preserving the wilderness character of the area.”

As set forth in Section 2(c) (“Definition of Wilderness”) of the Wilderness Act, wilderness character is composed of four mandatory qualities and a fifth, optional, quality. These are:

- i. Untrammeled. The Wilderness Act states that wilderness is “an area where the earth and its community of life are untrammeled by man.” A “trammel” is literally a net, snare, hobble, or other device that impedes the free movement of an animal. Here, used metaphorically, “untrammeled” refers to wilderness as essentially unhindered and free from modern human control or manipulation. This quality is impaired by human activities or actions that control or manipulate the components or processes of ecological systems inside wilderness.
- ii. Natural. The Wilderness Act states that wilderness is “protected and managed so as to preserve its natural conditions.” In short, wilderness ecological systems should be as free as possible from the effects of modern civilization. Management must foster a natural distribution of native wildlife, fish, and plants by ensuring that ecosystems and ecological processes continue to function naturally. Watersheds, water bodies, water quality, and soils are maintained in a natural condition; associated ecological processes previously altered by human influences will be allowed to return to their natural condition. Fire, insects, and diseases are allowed to play their natural role in the wilderness ecosystem except where these activities threaten human life, property, or high value resources on adjacent nonwilderness lands. Additional guidance on this is provided in section 1.6.C of this manual, which addresses the management of specific activities in wilderness. This quality may be affected by intended or unintended effects of human activities on the ecological systems inside the wilderness.
- iii. Undeveloped. The Wilderness Act states that wilderness is an area “of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation,” “where man himself is a visitor who does not remain,” and “with the imprint of man’s work substantially unnoticeable.” Wilderness has minimal evidence of modern human occupation or modification. This quality is impaired by the presence of structures or installations, and by the use of motor vehicles, motorized equipment, or mechanical transport that increases people’s ability to occupy or modify the environment. More detail on the activities that impair this quality is found in Section 1.6.B of this policy.
- iv. Solitude or Primitive and Unconfined Recreation. The Wilderness Act states that wilderness has “outstanding opportunities for solitude or a primitive and unconfined type of recreation.” Wilderness provides opportunities for people to experience: natural sights and sounds; remote, isolated, unfrequented, or secluded places; and freedom, risk, and the physical and emotional challenges of self-discovery and self-reliance. Any one wilderness does not have to provide all



these opportunities, nor is it necessary that they be present on every acre of a given wilderness. Where present, however, the preservation of these opportunities is important to the preservation of wilderness character as a whole. This quality is impaired by settings that reduce these opportunities, such as visitor encounters, signs of modern civilization, recreation facilities, and management restrictions on visitor behavior.

- v. Unique, Supplemental, or Other Features. The Wilderness Act states that wilderness areas “may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.” Though these values are not required of any wilderness, where they are present they are part of that area’s wilderness character, and must be protected as rigorously as any of the four required qualities. They may include historical, cultural, paleontological, or other resources not necessarily considered a part of any of the other qualities. These values are identified in a number of ways: in the area’s designating legislation, through its legislative history, by the original wilderness inventory, in a wilderness management plan, or at some other time after designation.

Section 4(b) of the Wilderness Act states that: “Except as otherwise provided in this Act, wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use.” In most cases the public purposes reflect one or more qualities of wilderness character and are administered so as to preserve the wilderness character of the area.

Section 4(c) of the Wilderness Act lists uses and activities that are specifically prohibited in wilderness: “Except as specifically provided for in this Act, and subject to existing private rights, there shall be no commercial enterprise and no permanent road within any wilderness area designated by this Act and, except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act (including measures required in emergencies involving the health and safety of persons within the area), there shall be no temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other form of mechanical transport, and no structure or installation within any such area.”

The BLM Wilderness Manual 6340 states: Wildlife management within wilderness is guided by all relevant laws, including the Wilderness Act, acts designating specific wilderness areas, the Endangered Species Act, the Migratory Bird Treaty Act, Native American treaty rights, 43 CFR 6300 (Management of Designated Wilderness Areas), 43 CFR 24 (Department of the Interior Fish and Wildlife Policy: State-Federal Relationships), and applicable State laws and policies regarding wildlife.

Many wilderness areas provide important habitat for federally listed threatened or endangered wildlife species. The BLM will manage wilderness areas to protect and recover known populations of federally listed threatened or endangered species and to aid in their recovery in previously occupied habitat. The wilderness restrictions can directly or indirectly influence GRSG and their habitat.

The BLM has seven wilderness areas within the planning boundary (**Table 3-46**, BLM-Administered Wilderness Areas). These seven areas are all within Owyhee County and were designated by Congress in 2009 through the Omnibus Public Lands Management Act.

A wilderness management plan for the seven BLM wilderness areas will be released in draft in February 2013. A final plan should be completed by mid to late 2013.

Table 3-46
BLM-Administered Wilderness Areas

BLM Wilderness Name	Wilderness Acres
Bear Trap Wilderness	6,350
Big Jacks Creek Wilderness	52,800
Bruneau-Jarbridge Rivers Wilderness	90,000
Little Jacks Creek Wilderness	50,900
North Fork Owyhee Wilderness	43,400
Owyhee River Wilderness	267,300
Pole Creek Wilderness	12,500
Total BLM Wilderness	523,250

Source: BLM 2013a

Forest Service

The Forest Service, National Park Service, and BLM manage wilderness areas under the same legislation; the 1964 Wilderness Act. The agencies have similar objectives and policies related to wilderness. Below is text from the Forest Service wilderness manual.

Wilderness is a unique and vital resource. In addition to offering primitive recreation opportunities, it is valuable for its scientific and educational uses, as a benchmark for ecological studies, and for the preservation of historical and natural features.

Manage the wilderness resource to ensure its character and values are dominant and enduring. Its management must be consistent over time and between areas to ensure its present and future availability and enjoyment as wilderness. Manage wilderness to ensure that human influence does not impede the free play of natural forces or interfere with natural successions in the ecosystems and to ensure that each wilderness offers outstanding opportunities for solitude or a primitive and unconfined type of recreation. Manage wilderness as one resource rather than a series of separate resources (FSM 2300 Sec. 2320.6).

Objectives

- Maintain and perpetuate the enduring resource of wilderness as one of the multiple uses of Forest Service-administered land.
- Maintain wilderness in such a manner that ecosystems are unaffected by human manipulation and influences so that plants and animals develop and respond to natural forces.



- Minimize the impact of those kinds of uses and activities generally prohibited by the Wilderness Act, but specifically excepted by the Act or subsequent legislation.
- Protect and perpetuate wilderness character and public values including, but not limited to, opportunities for scientific study, education, solitude, physical and mental challenge and stimulation, inspiration, and primitive recreation experiences.
- Gather information and carry out research in a manner compatible with preserving the wilderness environment to increase understanding of wilderness ecology, wilderness uses, management opportunities, and visitor behavior.

Policy

- Where there are alternatives among management decisions, wilderness values shall dominate over all other considerations except where limited by the Wilderness Act, subsequent legislation, or regulations.
- Manage the use of other resources in wilderness in a manner compatible with wilderness resource management objectives.
- In wildernesses where the establishing legislation permits resource uses and activities that are nonconforming exceptions to the definition of wilderness as described in the Wilderness Act, manage these nonconforming uses and activities in such a manner as to minimize their effect on the wilderness resource.
- Cease uses and activities and remove existing structures not essential to the administration, protection, or management of wilderness for wilderness purposes or not provided for in the establishing legislation.
- Because wilderness does not exist in a vacuum, consider activities on both sides of wilderness boundaries during planning and articulate management goals and the blending of diverse resources in forest plans. Do not maintain buffer strips of undeveloped wildland to provide an informal extension of wilderness. Do not maintain internal buffer zones that degrade wilderness values. Use the Recreation Opportunity Spectrum (FSM 2310) as a tool to plan adjacent land management.
- Manage each wilderness as a total unit and coordinate management direction when they cross other administrative boundaries.
- Use interdisciplinary skills in planning for wilderness use and administration.
- Gather necessary information and carry out research programs in a manner that is compatible with the preservation of the wilderness environment.
- Whenever and wherever possible, acquire non-federal lands located within wildernesses, as well as non-federal lands within those areas recommended for inclusion in the system.

The Forest Service manages eight wilderness areas that are either all or portions of within the planning area (**Table 3-47**, Forest Service-Administered Wilderness Areas).

Table 3-47
Forest Service-Administered Wilderness Areas

Forest Service Wilderness Name	Wilderness Acres
Sawtooth	217,100
Frank Church River of No Return	2,366,900
Anaconda Pintler	158,600
Gates of the Mountains	28,600
Lee Metcalf	264,600
Red Rock Lakes	32,400
Absaroka Beartooth	943,600
Total Forest Service Wilderness	2,709,100

Source: BLM 2013a

National Park Service

The following is from the National Park Service Wilderness Management Policy 2006: The National Park Service will manage wilderness areas for the use and enjoyment of the American people in such a manner as will leave them unimpaired for future use and enjoyment as wilderness. Management will include the protection of these areas, the preservation of their wilderness character, and the gathering and dissemination of information regarding their use and enjoyment as wilderness. The purpose of wilderness in the national parks includes the preservation of wilderness character and wilderness resources in an unimpaired condition and, in accordance with the Wilderness Act, wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use.

Craters of the Moon National Monument manages one wilderness area within the planning boundary (**Table 3-48**, National Park Service Wilderness Areas).

Table 3-48
National Park Service Wilderness Areas

National Park Service Wilderness Name	Wilderness Acres
Craters of the Moon National Wilderness	43,200
Total National Park Service Wilderness	43,200

Source: BLM 2013a

3.13.2 Wilderness Study Areas

Section 603 of FLPMA directed the BLM to carry out a wilderness review of the BLM-administered lands. The wilderness inventory was conducted from 1978 to 1980. The original inventory focused on roadless areas of BLM-administered lands of 5,000 acres or more and on roadless islands, but also included areas of less than 5,000 acres that had



wilderness characteristics in association with contiguous roadless lands managed by another agency, and areas of less than 5,000 acres that had wilderness characteristics and could practicably be managed to keep those characteristics in an unimpaired condition. Additional WSAs were designated through the BLM land use planning process under the authority of Sections 201, 202, and 302 of FLPMA after the reports to Congress were completed in 1993.

The inventory phase identified areas that were found to have the characteristics of wilderness enumerated by Congress in Section 2 (c) of the Wilderness Act of 1964:

“A wilderness...(1) generally appears to have been affected primarily by the forces of nature, with the imprint of man’s work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.” When these characteristics were found within a defined boundary, the presence of the wilderness resource was documented and the area was classified as a WSA.

During the study phase, all values, resources, and uses occurring within each WSA were analyzed, pursuant to the NEPA, through legislative environmental impact statements. When the study was completed, recommendations as to the suitability or unsuitability of each WSA for designation as wilderness were submitted to the President through the Secretary of the Interior, and then from the President to Congress.

Consistent with BLM Manual 6330 and FLPMA Section 603(c), the BLM currently manages approximately 770,000 acres of WSAs within the planning boundary. This includes 10 WSAs in the Dillon Field Office and 34 WSAs in the Idaho Field Offices. **Table 2-2** identifies acres of WSAs that contain GRSG habitat in the decision area for this LUPA/EIS.

3.13.3 National Landscapes, Monuments, and Conservation Areas

National Landscape Conservation System

The National Landscape Conservation System (NLCS) was created in 2000 through an order signed by Interior Secretary Babbitt. The concept of the NLCS was for the BLM to manage a system of lands with a dominant conservation mission. In the order, Secretary Babbitt included lands, rivers, and trails designated by acts of Congress or presidential proclamations under the 1906 Antiquities Act as units in the NLCS. In 2009, Congress passed the Omnibus Public Lands Management Act, which permanently established the NLCS “... to conserve, protect and restore nationally significant landscapes that have outstanding cultural, ecological, and scientific values for the benefit of current and future generations.”

Since the creation of the NLCS, the BLM has promoted understanding of the system. As a way to help the public recognize the NLCS, the BLM has developed a brand and logo: National Conservation Lands.

Within the planning area, there are multiple units representing the National Conservation Lands. These include a National Monument, a National Conservation Area, Wilderness

Areas, Wilderness Study Areas, Wild and Scenic Rivers, and National Scenic and Historic Trails.

National Monuments and National Conservation Areas

National Monuments are areas either designated by Congress or by presidential proclamation (under the authority of the Antiquities Act of 1906) to protect unique historic landmarks, historic and prehistoric structures, or other objects of historic or scientific interest. Within the planning area, the BLM and the National Park Service jointly administer the Craters of the Moon National Monument and Preserve (737,700 acres). The BLM portion of the monument was designated in 2000 to protect *kipukas* (small areas surrounded by lava). These are some of the last undisturbed vegetation communities on the Snake River Plain and the surrounding sagebrush (*Artemisia* spp.) steppe ecosystem. They consist of diverse communities of grasses, sagebrush, and shrubs that provide habitat for a variety of wildlife. This area also includes lava tube caves, older volcanic formations, and volcanic buttes. Craters of the Moon is managed to protect and preserve the objects and values for which it was designated.

National Conservation Areas (NCAs) are designated by Congress to conserve, protect, enhance, and manage public land areas for the benefit and enjoyment of present and future generations. NCAs feature exceptional natural, recreational, cultural, wildlife, aquatic, archaeological, paleontological, historical, educational, and scientific resources. Within the planning area, the BLM manages the Morley Nelson Snake River Birds of Prey National Conservation Area (485,000 acres). Congress established the NCA in 1993 to protect a unique environment that supports one of the world's most dense concentrations of nesting birds of prey. Falcons, eagles, hawks, and owls are found here in exceptional profusion and variety. The NCA is managed to conserve, protect, and enhance raptor populations and their associated habitats.

The BLM manages National Monuments and National Conservation Areas in accordance with the direction provided in BLM Manual 6220. This policy will be adhered to during any site-specific NEPA analyses that are conducted within either of these areas.

National Scenic and Historic Trails

A National Historic Trail (NHT) is congressionally designated as an extended long-distance trail, not necessarily managed as continuous. It follows as closely as possible and practicable the original trails or routes of travel of national historic significance. The purpose of an NHT is to identify and protect the historic route and the historic remnants and artifacts for public use and enjoyment. An NHT is managed to protect the nationally significant resources, qualities, values, and associated settings of the areas through which such trails may pass, including the primary use or uses of the trail.

While National Scenic and Historic Trails cross lands managed by different agencies, trails and trail segments that cross BLM-administered lands are managed in accordance with BLM Manual 6280, Management of National Scenic and Historic Trails and Trails Under Study or Recommended as Suitable for Congressional Designation. This manual mandates that the



BLM establish NHT's Management Corridors to assist in the management of the resources, qualities, values, and associated settings and the primary use or uses for which the NHT was designated. The designation of NHT's Management Corridors in the future may encompass lands that include GRSG habitat and may include management decisions and actions that likely will have positive effects on GRSG populations.

Table 3-49, National Historic Trails, lists the NHT's in the planning area, by planning district.

Table 3-49
National Historic Trails

Planning District	National Historic Trail
BLM	
Dillon Field Office	Lewis and Clark National Historic Trail Oregon National Historic Trail
Burley Field Office	California National Historic Trail
Four Rivers Field Office	Oregon National Historic Trail
Owyhee Field Office	Oregon National Historic Trail
Pocatello Field Office	Oregon National Historic Trail California National Historic Trail
Salmon Field Office	Lewis and Clark National Historic Trail
Shoshone Field Office	Oregon National Historic Trail
Upper Snake Field Office	Oregon National Historic Trail Nez Perce National Historic Trail
Forest Service	
Beaverhead-Deerlodge National Forest	Nez Perce National Historic Trail Oregon National Historic Trail
Caribou-Targhee National Forest	Nez Perce National Historic Trail

3.13.4 Wild and Scenic Rivers

The National Wild and Scenic Rivers System was created by Congress in 1968 (Public Law 90-542; 16 USC 1271 et seq.) to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations. The Act is notable for safeguarding the special character of these rivers, while also recognizing the potential for their appropriate use and development. It encourages river management that crosses political boundaries and promotes public participation in developing goals for river protection.

It is hereby declared to be the policy of the United States that certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations. The Congress declares that the established national policy of dams and other construction at appropriate sections of the rivers of the United States needs

to be complemented by a policy that would preserve other selected rivers or sections thereof in their free-flowing condition to protect the water quality of such rivers and to fulfill other vital national conservation purposes. (Wild & Scenic Rivers Act, October 2, 1968)

Rivers may be designated by Congress or, if certain requirements are met, the Secretary of the Interior. Each river is administered by either a federal or state agency. Designated segments need not include the entire river and may include tributaries. For federally administered rivers, the designated boundaries generally average one-quarter mile on either bank in the lower 48 states and one-half mile on rivers outside national parks in Alaska in order to protect river-related values.

River Classification

Rivers are classified as wild, scenic, or recreational.

- Wild River Areas – Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.
- Scenic River Areas – Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.
- Recreational River Areas – Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

Regardless of classification, each river in the National System is administered with the goal of protecting and enhancing the values that caused it to be designated. Designation neither prohibits development nor gives the federal government control over private property. Recreation, agricultural practices, residential development, and other uses may continue. Protection of the river is provided through voluntary stewardship by landowners and river users and through regulation and programs of federal, state, local, or tribal governments. In most cases not all land within boundaries is, or will be, publicly owned, and the Act limits how much land the federal government is allowed to acquire from willing sellers. Visitors to these rivers are cautioned to be aware of and respect private property rights.

The Act purposefully strives to balance dam and other construction at appropriate sections of rivers with permanent protection for some of the country's most outstanding free-flowing rivers. To accomplish this, it prohibits federal support for actions such as the construction of dams or other instream activities that would harm the river's free-flowing condition, water quality, or outstanding resource values. However, designation does not affect existing water rights or the existing jurisdiction of states and the federal government over waters as determined by established principles of law.



The Forest Service manages two designated rivers within the planning boundary (**Table 3-50**, Forest Service-Administered Wild and Scenic Rivers). The Middle Fork of the Salmon is wholly within the planning boundary whereas only a portion of the Salmon River is within the planning boundary.

Table 3-50
Forest Service-Administered Wild and Scenic Rivers

Name	Classification	River Miles
Salmon River	Wild	79
	Recreational	46
Middle Fork of the Salmon River	Wild	103
	Scenic	1

The BLM manages 16 designated rivers that are wholly within the planning boundary (**Table 3-51**, BLM-Administered Wild and Scenic Rivers). All of the 16 rivers are within wilderness areas. Where the wilderness policy is more restrictive than the Wild and Scenic Rivers policy regarding actions within wilderness, the wilderness policy takes precedence; however, Wild and Scenic Rivers must be administered so as to protect and enhance the values that caused it to be designated.

Table 3-51
BLM-Administered Wild and Scenic Rivers

Name	Classification	River Miles
Battle Creek	Wild	23.4
Big Jacks Creek	Wild	35
Bruneau River	Recreational	0.6
	Wild	39.3
West Fork Bruneau River	Wild	0.35
Cottonwood Creek	Wild	2.6
Deep Creek	Wild	13.1
Dickshooter Creek	Wild	9.25
Duncan Creek	Wild	0.9
Jarbidge River	Wild	28.8
Little Jacks Creek	Wild	12.4
North Fork Owyhee River	Recreational	5.7
	Wild	15.1
Owyhee River	Wild	67.3
South Fork Of The Owyhee River	Recreational	1.2
	Wild	31.4
Red Canyon	Wild	4.6
Sheep Creek	Wild	25.6
Wickahoney Creek	Wild	1.5

3.13.5 Regional Context

Table 3-52, Acres of Conservation Areas within GRSG Habitat, displays special designations data for GRSG habitat in the planning area. Data are presented by surface management agency and their occurrence within occupied GRSG habitat in the planning area and the MZs that overlap the planning area.

Table 3-52
Acres of Conservation Areas within GRSG Habitat

Surface Management Agency	Acres within PGH ¹			Acres within PPH ¹		
	Planning Area	MZ II/VII ²	MZ IV	Planning Area	MZ II/VII ²	MZ IV
BLM	231,000	511,100	741,400	904,200	241,300	1,510,700
Forest Service	400	46,800	3,000	500	2,500	26,600
Tribal and Other Federal	240,100	105,700	254,800	67,900	93,300	76,000
Private	108,800	358,900	164,300	120,400	217,100	124,800
State	16,500	41,400	16,600	22,300	44,000	22,500
Other	1,500	4,400	1,500	21	26,500	21

Source: Manier et al. 2013

¹Includes Areas of Critical Environmental Concern, USFWS refuges, National Conservation Easements, National Park Service units, National Landscape Conservation System Units, congressionally designated Wilderness areas, and conservation areas on private and state land.

² Note: BER combined acres for MZs II and VII

3.14 Soil Resources

Many resources and resource uses, including livestock grazing, wildlife habitat, riparian habitat, special status species, fisheries, recreation, water quality and forestry, depend on suitable soils. Consequently, soil attributes and conditions are important to BLM and Forest Service management decisions.

Soils are defined by the processes that form them. Through time, these processes form unique soil types and influence what plants may grow upon them. Soil surveys indicate that climate and topography are the primary influences on soil formation. Soil development processes, such as rock weathering, decomposition of plant materials, accumulation of organic matter, and nutrient cycling, are controlled largely by climate. Soil moisture and temperature strongly affect the rates of addition, removal, translocation, and transformation of material within the soil. Topography influences site conditions such as precipitation amounts and effectiveness, drainage, runoff, erosion potential, and temperature.

Soils play an integral part in vegetation community development. Plants use soil as an anchor, a means to provide water for growth, and a storehouse for the nutrients needed for growth. Plant communities are most noticeably influenced where soil texture and thickness of soil horizons change, depth to restrictive layers including abrupt soil horizon boundaries exist, and by soil drainage, moisture holding capacity, or depth to water table. Native plant communities require management considerations that include the ability of the soil to



produce a healthy ecosystem over the long term. Reducing the risk of erosion from water and air processes, limiting compaction from traffic source or grazing, and allowing the water to infiltrate at a normal rate for the given soil texture will allow vegetative communities to thrive and further protects the soil resources.

The NRCS provides soil mapping across the United States. Soil information and mapping from the NRCS are provided below under existing conditions to describe soil resources.

Land uses strive to conform to Standards for Public Land Health on BLM-administered lands, which describe conditions needed to sustain public land health and relate to all uses of the BLM-administered lands.

3.15 Conditions within the Planning Area

Soil Productivity

Soil productivity within the planning area varies widely due to the diversity of soils and site characteristics, specifically differences in elevation and slope gradient. The planning area landscape varies greatly from broad valleys to mountains.

The average annual precipitation and temperature in the project area vary greatly by elevation and aspect. Some of the most productive soils are found in well drained valley bottoms, toe-slopes, benches, and broad ridge tops. On uplands where rainfall is moderate to low, medium-textured soils may produce favorable conditions, depending on land uses such as livestock grazing. Soils that feature shallow clay pans, hardpans, or salts pose substantial constraints to land use and land use management.

Management practices affect the ability of soils to maintain productivity by influencing disturbances such as displacement, compaction, erosion, and alteration of organic matter and soil organism levels. When soil degradation occurs in semiarid, high desert regions, natural processes are slow to return site productivity. Prevention of soil degradation is far more cost-effective and time effective than remediation or waiting for natural processes. Management practices, such as proper stocking rates for livestock, rotation of grazing, periodic rest from grazing, improved design, construction and maintenance of roads, selective logging, rehabilitation of unneeded surface disturbance, restricting vehicles to roads and trails, rehabilitating mined areas, and control of concentrated recreational activities, have reduced erosion effects and improved soil conditions.

Soil Erosion

Erosion is a continuing natural process that can be accelerated by human disturbances. Factors that influence soil erosion include soil texture, structure, length and percent of slope, vegetative cover, and rainfall or wind intensity. Soils most susceptible to erosion by wind or water are typified by bare or sparse vegetative cover, noncohesive soil particles with slow infiltration rates, and moderate to steep slopes. Wind erosion processes are less affected by slope angle but are highly influenced by wind intensity.

The semi-arid planning area has a low percentage of natural plant community ground cover, allowing the soils to erode naturally in wind and during infrequent rain events. In addition,

management actions affect the rate at which soil erodes. Activities that remove vegetative cover increase the erosion rate. Some soils are particularly vulnerable to soil erosion.

NRCS soil map unit descriptions rate soils in the planning area according to their susceptibility to water and wind erosion. Wind erosion is particularly a hazard when surface litter and vegetation are removed by fire or other disturbances. Soils in the planning area were screened based on several relevant characteristics that indicate potentially fragile soils or high erosion hazards. These characteristics include:

- soils rated as highly or severely erodible by wind or water, as described in NRCS soil survey reports
- landslide areas as identified in NRCS soil survey reports
- soils on slopes greater than 35 percent

Soil Types

When making land management decisions based on soil related hazards or limitations, the BLM evaluates soil surveys available from the NRCS. Soils mapped according to the boundaries of major land resource areas, which are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses. Each soil survey describes the specific properties of soils in the area surveyed and shows the location of each kind of soil on detailed maps. The BLM evaluates soil map units to make management decisions that would likely affect soils. Each soil survey applicable to the planning area describes soil map units by the individual soil or soils that make up the unit. These descriptions indicate the limitations and hazards inherent in each unit. Descriptions include soil depth, range of elevation, origin, climate, physical properties, runoff capabilities, erosion hazard, associated native vegetation, wildlife habitat use, and capability for community development and other uses.

Soil can be classified in many ways according to a whole host of parameters. For the generalization of soils in the planning area, the taxonomy of soil order is a convenient starting place. Most of the soils in the planning area are part of the largest soil order, Mollisols. The remaining areas are composed of similar young developmental soils in the Inceptisol, Entisol, and Andisol orders, with a very small amount of Histisols and Vertisols that have particular properties that may be of importance.

Soil properties can provide information as to why certain plants may grow in one area and not another, or why erosion occurs by wind and not water. The NRCS provides a suite of risk ratings, interpretations, and basic soil data that describes soils resources. The soil texture for most soils across the planning area is a loam as composed of the representative percent of sand, silt and clay. Some greater or lesser amounts of these percentages produce clayey loams and silty loams for the most part. The soils have very low amounts of organic matter (2 percent), low available moisture content in the top 10 inches (25.4 cm) and are considered well drained. The risk of erosion by water is slight, except in those very steep canyons and exposed bedrock ridges that have a severe to very severe rating. The overall majority of the



planning area is considered to be of slight risk for erosion. The soils are prone to degradation when soil is removed in excess of the ability to rebuild it. In this area of the state, the amount of loss can be significant with wind exposure or increased erosion from water. Only 1 to 2 tons of soil per acre per year needs to be removed in approximately half of the planning area to have a loss of long term productivity.

The amount of sand, silt and clay in the soil alters the water infiltration. Soils with higher amounts of silt and clay infiltrate water more slowly than soils with higher amounts of sand. For most of the planning area water infiltrates rapidly into the soil resulting in little standing water.

Hydric (wet) soils and unique biological soil crusts are key soil resources in the planning area.

Hydric Soils. Hydric soils constitute only a small portion of the planning area. Hydric soils are associated with riparian areas and wetlands. Riparian-wetland soils are found throughout the planning area along water courses, near springs, seeps, playas, and adjacent to reservoirs. Because of the presence of water, riparian-wetland soils have properties that differ from upland areas.

Biologic Soil Crusts. Biologic soil crusts are made up of tiny living plants and bacteria that grow together on the soil surface. They help keep the soil from washing or blowing away, fix nitrogen from the atmosphere into the soil, help keep out weeds, and promote the health of plant communities. Loss of biological soil crusts is a contributing factor in the replacement of native vascular plants by invasive species such as cheatgrass or medusa head.

Based on research throughout the west, parameters for the ecology and management of biological soil crusts have been developed by the Department of the Interior. Factors found affecting presence, density, cover, and species diversity of macrobiotic crusts include elevation, soils, and topography, disturbances, timing of precipitation, vascular plant community, ecological gradients and microhabitats.

3.15.1 Trends

Soil resources change slowly unless catastrophic or larger scale disturbance events such as landslides, floods, volcanoes, or wildfires occur. Then, erosion or deposition would change the ground cover at one point or many. Thus, the degree of change in the planning area would be considered low or insignificant, with the direction of change being the most likely to occur naturally over time. There have been larger wildfire events and to some degree restoration activities that have altered the vegetation communities where juniper has been invading sagebrush communities.

The overall guidance for soil resources is to maintain or improve the ability of the soil to support vegetation and allow water and nutrients to be cycled by either macro or microorganisms, all of which promote and improve the health of the land. Degradation by excessive grazing, erosion, or land developments will cause a reduction in soil function as one or perhaps many of the soil properties are changed thereby affecting the functions necessary for healthy soils. In the planning area, impacts on soil resources have resulted from

energy development, grazing, recreation, natural processes, and other activities. The potential for maintaining or restoring these communities and conserving the soil resource depends on the specific soil types and how resource programs are managed.

3.16 Water Resources

Water on BLM- and Forest Service-administered lands is regulated by the Clean Water Act, Safe Drinking Water Act, Public Land Health Standards, and other laws, regulations, and policy guidance at the federal, state, and local levels. Water resources in Idaho are regulated by the EPA, US Army Corps of Engineers, and the Idaho Department of Environmental Quality.

The Idaho Department of Environmental Quality has granted designated management agency status to the BLM. As a designated management agency, the BLM must: (1) implement and enforce natural resource management programs for the protection of water quality on federal lands under its jurisdiction; (2) protect and maintain water quality where it meets or exceeds applicable state and Tribal water quality standards; (3) monitor activities to assure that they meet standards and report the results to the State of Idaho; and (4) meet periodically to recertify water quality BMPs. BMPs include methods, measure, or practices to prevent or reduce water pollution, including but not limited to structural and nonstructural controls, operations, and maintenance procedures. BMPs are applied as needed to projects.

3.16.1 Existing Conditions

The discussion of existing conditions includes a description of water resources for the planning area, regardless of landownership. Where appropriate, it also includes a more detailed description of water resources for just BLM-administered lands within the planning area. For this, the description is limited to describing water resources associated with GRSG and their habitat. Wetlands and livestock water developments are important sources of water that can influence GRSG and their habitat.

3.16.2 Conditions within the Planning Area

The BLM is the overwhelming land manager in the planning area. The Forest Service, USFWS, Bureau of Indian Affairs, and State of Idaho all have lands within the planning area that also contain a suite of water resources.

Within the planning area, the major water features are streams, lakes, wetlands, playas, and dry lakes. Streams can be ephemeral, intermittent, or perennial. Ephemeral streams do not flow during an average water year, but do flow in response to large precipitation events. Intermittent streams flow during spring runoff for an average water year, but generally dry up later in the summer. Perennial streams contain some water all year for an average water year. Lakes can be permanent or temporary. Wetlands and floodplains vary in extent and depth throughout the year. Permanent waters can also be in the form of ponds and reservoirs developed for human or livestock consumption.



Stream channels and floodplains are important because their shape and condition affect how rapidly water flows through a river system, how much water is stored within the basins, the quality of the water, and how much erosion occurs. These functions, in turn, affect fish and wildlife habitat, agriculture, recreation, and the susceptibility of local communities and landowners to floods.

As early land management reduced vegetation in the watershed, overland flow of water increased, and stream channels deepened to match the increased supply of water and sediment. Major flood events in the late 1800s were the likely immediate cause of the deepening channels. Channel incisions eventually lead to bank failures and subsequent channel widening. As channel widening and bank failures continued, new low flow channels began to form in the debris from bank failure. Many of the stream channels in the planning area were in the process of this initial buildup in the 1980s. The result of this process is that new channels are usually lower than pre-disturbance channels, and the old floodplain now functions primarily as a terrace. Some terraces may be the result of climatic variations and associated changes in flow and sediment supply. The final stage of channel evolution results in a new bankfull channel and active floodplain at a new, lower elevation. Many stream channels in the planning area have new, lower elevation channels and floodplains.

Surface Water

The US is divided and sub-divided into successively smaller hydrologic units called regions, sub-regions, accounting units (basins), and cataloging units (sub-basins). Each hydrologic unit is identified by a unique hydrologic unit code consisting of two to eight digits. The fourth level of classification (sub-basin) is represented by an eight-digit hydrologic unit code.

The historic scarcity of stream flow in the planning area has led to increased flow regulation by the State of Idaho. Projects for irrigation, livestock, human use, and flood control have significantly altered natural flow regimes. This has changed habitat conditions, channel stability and timing of sediment and organic material transport. Stream flow has been altered by management activities such as water impoundments, water withdrawals, road construction, vegetation manipulation, grazing, fire suppression, and timber harvesting.

Most surface runoff in the planning area is from snowmelt or rainfall producing peak discharges in the spring and early summer. Many of the streams in the lower elevation semi-arid areas are either intermittent, with segments of perennial flow near springs, or ephemeral, with flow only during spring runoff and intense summer storms.

Riparian Areas and Wetlands

Riparian areas are ecosystems that occur along rivers, streams or water bodies. These areas exhibit vegetation or physical characteristics reflective of a permanent surface or subsurface water influence. Typical riparian areas include lands along, adjacent to, or contiguous with perennially and intermittently flowing rivers, streams, and shores of lakes and reservoirs with stable water levels. Excluded are sites such as ephemeral streams or washes that do not exhibit vegetation dependent on free water in the soil. Wetlands are areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and which under normal circumstances do support a prevalence of vegetation typically adapted

for life in saturated soil conditions. Wetlands include marshes, swamps, lake shores, lakeshores, sloughs, bogs, wet meadows, and riparian areas. Even though riparian and wetlands areas occupy only a small percentage of the planning area, these areas provide a wide range of functions critical to many different wildlife species, improve water quality, provide scenery, and recreational opportunities.

The BLM uses proper functioning condition (PFC) assessments for evaluating riparian-wetland areas and uses it to supplement existing stream channel and riparian area evaluations and assessments. Each riparian-wetland has to be judged against its capability and potential. The capability and potential of natural riparian-wetland areas are characterized by the interaction of hydrology, vegetation, and erosion/deposition. PFC is defined separately for lotic (moving water systems, such as rivers, streams, and spring and lentic (standing water systems, such as lakes, ponds, seeps, and wet meadows). If a riparian or wetland area is not in PFC, it is placed into one of three other categories; functional at risk, nonfunctional, or unknown.

The majority of BLM stream channels and floodplains within the planning area are not meeting the BLM standard of PFC. However relatively few stream channels are nonfunctioning. More intermittent stream channels are in nonfunctioning condition than perennial streams but they also have more miles of stream at potential and PFC.

Water Quality

Water quality as defined by the Clean Water Act, includes all the physical, biological, and chemical characteristics which affect existing and designated beneficial uses. The state of Idaho is required to identify which beneficial uses a water body currently supports or could support in the future. Water quality standards are established to protect the beneficial uses of the State's waters. Beneficial uses in planning area are public and private domestic water supplies, industrial water supply, irrigation, livestock watering, fish and aquatic life, and recreation.

The State of Idaho is required by section 303(d) of the Clean Water Act to identify waters which are water quality impaired because of failing to meet their designated beneficial uses. Section 303(d) requires that each state develop a list of water bodies that fail to meet water quality standards and delineate stream segments and listing criteria for all streams. The Section 303(d) list of impaired waters is updated biannually, and the state is required to develop a total maximum daily load allocation for each pollutant of concern.

Water quality is evaluated based on the ability of a water body to support beneficial uses of the water. Generally, key water qualities are those that support native fish and wildlife and support human uses such as agriculture, recreation, and domestic water supply.

The major water quality concern for streams in the planning area has been water temperature. These water temperature concerns correlate to the beneficial use of fish spawning and rearing habitat. Conditions that affect stream temperature can be summaries as amount of near stream vegetation, channel shape, and hydrology. Many of these conditions are interrelated, and many conditions vary considerably across the landscape. For



example, channel width measurements can change greatly over even small distances along a stream. Some conditions vary daily and or seasonally. Stream orientation from a north-south to an east-west can change solar heating considerably when stream width and vegetation type remain the same.

Removal of riparian vegetation and the shade it provides contributes to elevated stream temperatures. Channel widening can similarly increase solar loading. The principal source of heat energy delivered to the water column is solar energy striking the stream surface directly. Exposure to solar radiation can cause an increase in stream temperature. The ability of riparian vegetation to shade the stream throughout the day depends on aspect and vegetation height, width, density, and position relative to the stream, as well as aspect the stream flows.

Causes of stream degradation are removal of riparian vegetation and destabilization of streambanks. The land use most commonly associated with these problems in the planning area is livestock grazing. Other land uses associated with degraded streams include roads, trails, water withdraw, reservoir storage and release, altered physical characteristics of the stream and wetlands alteration.

Groundwater

Groundwater is used for irrigation, domestic use, and livestock use. The quality of the groundwater is a function of the chemical makeup of the underground formation containing the water. Most of the planning area contains good quality water but the water is usually hard and contains moderate amounts of dissolved minerals.

Springs and seeps occur in areas where water from aquifers reaches the surface. Many springs begin in stream channels and others flow into small ponds or marshy areas that drain into channels. Some springs and seeps form their own channels that reach flowing streams, but other springs lose their surface expression and recharge alluvial fill material or permeable stratum.

Springs and seeps are important to aquatic habitats because of the perennial base flow they provide to a stream. The outflow from springs in summer usually helps to maintain lower water temperatures. In winter, especially in small streams, base flow helps to maintain an aquatic habitat in an otherwise frozen environment.

Water Quantity

Water balance across the US is approximately 30 percent runoff and 70 percent evaporation. This may be different across the planning area due to higher temperatures and lower relative humidity in some areas.

Peak flows are connected with the spring runoff and snow melt with a decrease to near base flow during the month of July. Seasons and years of low water yield are particularly crucial periods for most of the planning area's beneficial uses.

The annual flow patterns may have changed since the 19th century. Historical descriptions indicate that streams were relatively stable with good summer streamflow and good water

quality and heavy riparian cover. Streambanks were covered with dense growths of aspen, poplar, and willow; cottonwood galleries were thick and wide; and beaver were abundant. Now peak flows are greater and late season flows are diminished. This may be the normal condition of larger flowing streams in the planning area. It is suspected that these effects are due to reduced rates of soil infiltration, reduced capacity for groundwater/riparian storage, and loss of in channel storage in beaver ponds.

3.16.3 Trends

Demands on water resources have increased over the past few decades. Although most early water rights were established for irrigation and mining, today's demand includes municipal water supplies, commercial and industrial supplies, and maintenance of adequate streamflow for fish, recreation, and water quality.

The availability of water in much of the planning area is limited and may hamper additional developments that depend on water. Future water development for wildlife, recreation, and livestock would require a State of Idaho water right before project implementation could occur.

3.17 Cultural Resources

In this section the term "cultural resources" is used to encompass the broad scope of resources that must be considered by the BLM and Forest Service and as further defined below. A cultural resource is a definite location of human activity, occupation, or use identifiable through field survey, historical documentation, or oral evidence (BLM Manual 8100). The term cultural resources is inclusive and has been adopted and widely used to refer to the diverse human record found in sites, structures, objects and places created and/or used by people. These may comprise archaeological, historic, or architectural sites, structures, objects, or places, and may include locations of traditional cultural or religious importance to a particular social and/or cultural group, often referred to as Traditional Cultural Properties. The term includes "historic properties," as defined in the National Historic Preservation Act of 1966, as amended (NHPA), and the implementing regulations found at 36 CFR Part 800. Historic properties are cultural resources determined to be eligible for listing on the National Register of Historic Places (NRHP). The term also includes "archaeological resources" as defined in the Archaeological Resources Protection Act of 1979, and other sites, structures, objects, items and places as addressed in other statutes/regulations (e.g., American Indian Religious Freedom Act of 1978, the Antiquities Act of 1906, NEPA, and the Native America Graves Protection and Repatriation Act of 1990).

Cultural resources are represented by the full temporal range of human occupation of the continent, from the first peoples' arrival and settlement in the region over 13,000 years ago and subsequent tribal groups expansion and use throughout all of the sub-region and other parts of the West to more recent incursions of fur trappers, homesteaders and miners and ranchers of the last 200 years. Cultural resources can include surface and buried artifacts and cultural features made and left by human cultures in archaeological sites; items built by past



cultures (e.g., houses/house remains and activity areas); and places associated with traditional cultural uses.

3.17.1 Considering Effects on Cultural Resources Pursuant to Section 106 of the NHPA

Cultural resources are most frequently identified and recorded through federal compliance with Section 106 of the NHPA and subsequent consultation with Native American tribes and State Historic Preservation Offices (SHPO). Section 106 requires that federal agencies that fund, approve, authorize, license, or permit actions or undertakings to consider effects on “historic properties” that could occur due to the proposed undertakings. It is important to emphasize again that the term “historic property” has a specific meaning under the NHPA, referring only to those properties determined to be eligible for or listed in the NRHP regardless of property type or period of use (e.g., traditional cultural property or archaeological site, and historic or prehistoric).

Federal regulations define specific criterion for NRHP eligibility and provide the measures for evaluating cultural resources for their eligibility. These criteria are found at 36 CFR 60.4. Once a cultural resource has been determined to be eligible for the NRHP the agency must consider the potential effects of the proposed action on the historic property and provide measures to either reduce or mitigate any adverse effects. Consequently, compliance with Section 106 provides a primary mechanism for federal agencies to assess and take into account the effects of proposed federal actions or undertakings on cultural resources during NEPA reviews.

The BLM follows alternative procedures, defined in state specific protocols, for meeting its Section 106 obligations allowed for and pursuant to the implementing regulations of the NHPA (36 CFR 800.14). In collaboration with the Advisory Council on Historic Preservation and the National Conference of State Historic Preservation Officers, the BLM developed alternative procedures that define the manner in which the agency will comply with Section 106 of the NHPA. These procedures are defined in a national Programmatic Agreement, revised in 2012, between the three parties. The national Programmatic Agreement procedures are implemented by the state specific protocol agreements with each state’s SHPO. The protocols further define how the BLM will coordinate with the SHPO in each state to fulfill Section 106 responsibilities.

Prior to initiating proposed actions for protection and enhancement of GRSG and GRSG habitat, the responsible manager shall determine the area of potential effect; review existing information on known and anticipated historic properties that could be affected; seek information (in coordination with environmental review and land use planning processes) from Native American tribes and other parties likely to have knowledge of or concern with historic properties (including places of traditional cultural and religious significance); determine the need for field surveys or other actions to identify historic properties; make a good faith effort to identify and evaluate historic properties; assess and determine effects on historic properties; and identify measures to avoid, lessen or mitigate adverse effects on historic properties.

As the various types of GRSG/habitat improvement projects are identified, effects on cultural resources can be assessed on a case by case or programmatic level; however, given current information, it is assumed that all future actions will require separate NHPA analyses. Any programmatic procedures not covered by the BLM's national Programmatic Agreement or state protocols will require either (a) separate NHPA analysis, or (b) a separate Section 106 agreement.

3.17.2 Conditions of the Planning Area

The planning area includes federal lands administered by the BLM Boise, Twin Falls, and Idaho Falls Districts in Idaho and the Dillon Field Office of the Western Montana District in Montana. Forest Service-administered lands include lands administered by the Boise, Sawtooth, Salmon-Challis, and Caribou-Targhee National Forests in Idaho, and the Beaverhead-Deerlodge National Forest in Montana. A majority of the habitat is sagebrush steppe on BLM-administered land, with upland sagebrush steppe and sub-alpine habitat or ecotones located on Forest Service-administered lands. The Snake and Salmon Rivers, and the headwaters of the Missouri river, are three major watershed systems within the planning area.

In general, and as extrapolated from BLM survey and site location data, on average 15 percent of BLM-administered lands within the planning area have been inventoried, resulting in the recordation of 17,801 archaeological resources (**Table 3-53**, Recorded Cultural Resource Surveys and Sites within GRSG Habitat in the Planning Area), including prehistoric and historic sites. These data indicate that, on average, six to eight sites occur per square mile on BLM-administered lands within the planning area. Formal determinations of eligibility have not been completed for most sites in the planning area; however, recorded resources are treated as eligible until determined otherwise. Based on logged eligibility determinations for known sites on BLM-administered lands, roughly 14 percent of recorded sites have been determined to be eligible for listing on the NRHP. These data indicate that over 2,492 of the recorded sites on BLM-administered lands are eligible for the NRHP (**Table 3-53**, Recorded Cultural Resource Surveys and Sites within GRSG Habitat in the Planning Area).

Table 3-53
Recorded Cultural Resource Surveys and Sites within GRSG Habitat in the Planning Area

Habitat	Idaho BLM Surveys	Idaho BLM Resources	Montana BLM Surveys	Montana BLM Resources	Planning Area Totals
PPH	2,057 surveys	12,517	596 surveys	723	718,292 acres
	692,778 acres		25,514 acres		13,240 Resources
PGH	1,226 surveys	4,561	538 surveys	564	763,170 acres
	739,277 acres		23,893 acres		5,125 Resources
Totals	1,432,055 acres	17,078	49,407 acres	1,287	1,481,462 acres 18,365 Resources

Source: BLM 2013a



The total extent of the cultural resource base is unknown for the National Forests in PPH or PGH, as the entire land base has not been inventoried. Survey coverage of GRSG habitat on the National Forests in the sub-region varies between 5 and 15 percent on most of the National Forests, with most surveys conducted for range allotment plans, wildlife habitat improvement projects, and commercial activities. The exact number of cultural resource surveys and sites located on the National Forests changes as new surveys are conducted; therefore, providing exact numerical information would not be accurate.

Several well-known historic properties and districts occur in the planning area, as listed by field office in **Table 3-54**, Well Known Historic Properties within the Planning Area. These historic properties along with other eligible properties in the planning area would need evaluation for the effects of proposed undertakings for GRSG habitat improvement prior to implementation. Areas not previously inventoried would be subjected to full cultural resources analysis for ground-disturbing actions.

Table 3-54
Well Known Historic Properties within the Planning Area

Field Office	Key National Register Listed or Eligible Properties
Dillon	The Bannack National Historic Landmark Big Hole National Battlefield Everson Creek/Black Canyon Quarry District Muddy Creek Archaeological District Historic mining districts, including Argenta, Bannack, Blue Wing, Ermont, Melrose, Rochester, Silver Star, Utopia, and Virginia City
Burley	Castle Rocks Traditional Cultural Property City of Rocks National Historic Landmark Kelton Road
Bruneau	Camas and Pole Creeks Archaeological District Shoofly Rock Alignments Little Blue Table complex Five Fingers & Y "Buffalo" Jumps Hole in Rock Pictographs
Challis	Challis Springs Historic District Ima Mine White Knob Mining District Crystal City Double Springs Challis Bison Jump Bayhorse Mining District Donkey Hills horse trap
Jarbridge	Toana Freight Wagon Road Devil Creek Complex Bruneau River/DryLakes Complex Browns Bench Obsidian Complex
Owyhee FO	Silver City Historic District Delamar Historic District

Table 3-54
Well Known Historic Properties within the Planning Area

Field Office	Key National Register Listed or Eligible Properties
Salmon FO	Jaguar Cave Rag Town Buckhorn Mine Elmira Mine
Shoshone FO	Wilson Butte Cave Richfield Pump house
Upper Snake FO	Birch Creek Rockshelters Bobcat Cave Jackknife Cave Black Canyon Rock Art Sites

Source: BLM 2013a

The Forest Service identifies their significant historic properties through identification of Priority Heritage Assets (**Table 3-55**, Forest Service Priority Heritage Assets and Listed Properties within the Planning Area). These are, in essence, the most significant sites on the forest.

Table 3-55
Forest Service Priority Heritage Assets and Listed Properties within the Planning Area

National Forest	Number of Priority Heritage Assets	Listed Properties
Boise NF	34	Atlanta Ranger Station Rocky Bar Townsite
Beaverhead – Deerlodge NF	45	Historic Resources of Pony, Montana Canyon Creek Charcoal Kilns Butte Anaconda and Pacific Railway Historic District Birch Creek Civilian Conservation Corps Camp Lemhi Pass National Historic Landmark
Sawtooth NF	32	Pole Creek Guard Station Oregon National Historic Trail
Caribou-Targhee NF	10	Salt River Hydroelectric Plant Bishop Mountain Lookout Squirrel Meadow Guard Station Mesa Falls Lodge Hudspeth's Cutoff Oregon Trail
Salmon – Challis NF	58	Leesburg Townsite and Cemetery Lemhi Pass National Historic Landmark Custer Townsite

Cultural Use of the Planning Area

Three cultural areas are located within the planning area. Cultural areas have often been correlated to physiographic regions, with the planning area falling within the northern Great



Basin, southeastern Plateau and western Plains regions. These cultural areas roughly correspond to distinctly different indigenous groups with different languages and moderately different resource-based economic systems and social structures. While these areas are associated to cultural groups and distinct tribes, cultural boundaries are fluid and overlapping. The main homelands and cultural traits of tribal groups that inhabit the region are generally defined by the cultural areas. Tribes that inhabit the region today and in the past include Great Basin groups such as the Shoshone-Paiute Tribes, Shoshone-Bannock Tribes, and the Eastern Shoshone; the Plateauan Nez Perce, Coeur d'Alene, Pend d'Oreille, Confederated Salish-Kootenai Tribes, Confederated Tribes of the Colville Reservation, Confederated Tribes of the Umatilla Reservation; and Plains groups including the Blackfeet Tribe, Chippewa Cree Tribes, and the Crow.

Tribal members actively use BLM- and Forest Service-administered lands for traditional resource procurement. The planning area contains populations of economically important plant and animal resources to tribal groups and individuals with certain species dominating depending on the region and the particular preferences of tribes or individuals. The sagebrush steppe and rocky upland flats are likely to support populations of plants such as bitterroot, biscuit root, Indian carrot, Indian rice grass and needle grass and other important root plants, such as camas in wetland areas. Modern traditional food plant gathering focuses almost entirely on root crops and wild fruits especially if they are found near the various reservations. Other types of cultural food plants such as seeds are not collected today to the degree they were collected in former times. Cultural plants for weaving appear to be collected wherever they are found. Medicinal cultural plants are undoubtedly collected today but practitioners of indigenous healing methods may not share the types of species used as readily as those collecting plants for subsistence and weaving. Rabbits, deer, elk, and fish are also important animal resources in the planning area.

The most common type of prehistoric site or cultural resource in Idaho and southwestern Montana is the lithic scatter. These types of sites contain mainly flaked stone (debitage) and/or stone tools left during the process of creating or repairing bifacial tools, such as arrow points, spear points, dart points, knives or scrapers. Lithic scatters often represent the remnants of prehistoric tool manufacturing/maintenance, locales created during subsistence pursuits, including hunting camps, animal butchering sites, or quarries. The lithic scatter comprises approximately 70 percent or more of recorded prehistoric sites in the planning area. Other site types may include habitation sites with remnants of house pits, house rings and hearths, as well as milling and storage equipment, such as pottery and basketry, and stone circles and wickiups in far eastern Idaho and Montana. Ceremonial sites may also exist in the planning area, but only a few may leave an archaeological signature, such as cairns, pits (e.g., eagle catching and fasting) or stacked rock of a vision quest site, or medicine wheels, and may require tribal consultation with practitioners and elders to identify. Other site types include trails, such as the Oregon National Historic Trail (NHT) and Nez Perce NHT, petroglyphs and pictographs, hunting drivelines and blinds, rock shelters, and caves.

While researchers in Idaho and Montana have developed varying cultural chronologies for prehistoric human use of the region, the general periods of use are similar and are discussed in very general terms here to outline prehistoric use of the planning area. The prehistoric

cultural chronology for both Idaho and Montana include five general periods, the Early Prehistoric (Paleo-Indian), circa 13,500 to 8,000 years before the present, three sub-periods of the Middle Prehistoric 8,000 to 300 years before the present and the Protohistoric/Early Historic 300 to 150 years before the present. General overviews of archeological research in the region are provided in studies by Butler (1978, 1986), Meatte (1990), and Plew (2008), for southern Idaho, and Deaver and Deaver (1990), and Foor (1996) in southwestern Montana.

The most common type of historic cultural resource in the planning area relates to the mining of gold, silver, lead, and copper during the latter part of the 19th century and the early part of the 20th century. Such properties include mining camp remnants, ghost towns, miner's cabins, mining shafts, adits, mills, smelters, and an assortment of other mining related buildings, structures, and landscape features. Several comprehensive overviews of historic metal mining in Idaho and Montana have been produced in recent years, and provide the important context with which to evaluate such properties (McKay 2011; Godfrey 2003; Warhank 1999; Herbolt 1995a, 1995b). Other historic period sites include transportation networks, trails, including the Oregon and California NHTs and associated side trails (e.g., Goodale's and Hudspeth Cutoffs) and the Lewis and Clark NHT, notable Lewis and Clark campsites, lumber mills, fur trapping shelters and cabins, homesteads, historic cemeteries, irrigation ditches, cow/sheep camps, shepherders cairns, stage stops and trash dumps.

3.17.3 Trends

Federal lands will continue to be managed for the protection and preservation of cultural resources pursuant to regulation and policy. More concerted government-to-government consultation with tribes is occurring to address tribal resources and concerns. Prehistoric and historic resources are nonrenewable and overtime have been diminished by unauthorized collection, looting and cumulative project impacts. However, efforts have increased in public education and outreach creating awareness about our nation's cultural heritage and tribal interests. These efforts have improved public understanding and awareness, resulting in increased preservation of cultural resources.

3.18 Tribal Interests

The federal government has a unique and distinctive relationship with federally recognized Native American tribes as set forth in the Constitution of the US, treaties, statutes, Executive Orders, judicial decisions, and agreements. This relationship is different from the federal government's relationship with state and local governments or other entities. The US government has a trust responsibility to federally recognized Native American tribes that covers lands, resources, money, or other assets held by the federal government in trust and the ability of those tribes to exercise their tribal rights. The US recognizes Native American tribes as sovereign nations. The tribes maintain active interests in the planning area. Tribal members use BLM-administered lands to gather plants or other native materials (e.g., stone for flint-knapping), hunt animals, and fish.

Native American treaties are negotiated contracts made pursuant to the Constitution of the US and are considered the "supreme law of the land." They take precedence over any



conflicting state laws because of the supremacy clause of the Constitution (Article 6, Clause 2). Treaty rights are not gifts or grants from the US, but are bargained for concessions. These rights are grants-of-rights from the tribes rather than to the tribes. The reciprocal obligations assumed by the federal government and Native American tribes constitute the chief source of present-day federal Native American law.

The BLM, Forest Service, and other federal agencies have the responsibility to identify and consider potential impacts of project alternatives identified for GRSG planning on Native American trust resources, including fish, game, and plant resources, and on off-reservation, treaty-reserved fishing, hunting, gathering, and similar rights of access and resource use on BLM-administered lands. This also includes rights of access and use for ceremonial and other traditional cultural practices. The BLM, as lead federal agency, also has the responsibility to ensure that meaningful consultation and coordination concerning GRSG planning is conducted on a government-to-government basis with federally recognized tribes to consider tribal treaty rights and trust resources. BLM-administered lands retain social, economic, and traditional value for tribal people, as well as contemporary and ongoing spiritual and cultural uses. Through consultation with the tribes, the BLM is aware of their treaty and trust obligations and the tribes' desire to capitalize on opportunities that maintain or enhance resources critical to the exercise of treaty rights, traditional customs, subsistence, and cultural uses of the land.

BLM and Forest Service consultation with Native American tribes, as it pertains to tribal interests, treaty rights and trust responsibilities, is conducted in accordance with the following direction:

- Executive Order No. 13175 – Consultation and Coordination with Indian Tribal Governments, November 6, 2000
- Secretarial Order 3317 – Department of Interior Policy on Consultation with Indian Tribes, December 1, 2011
- Bureau Manual Handbook H-8120-1 – Guidelines for Conducting Tribal Consultation (Transmitted 12/03/04)
- The National Historic Preservation Act of 1966 as amended (PL 89-665; 80 Stat. 915; 16 USC 470)
- Archaeological Resources Protection Act of 1979 (PL 96-95; 93 Stat. 721; 16 USC 470aa et seq.) as amended (PL 100-555; PL 100-588)
- American Indian Religious Freedom Act of 1978 (PL 95-431; 92 Stat. 469; 42 USC 19960)
- Native American Graves Protection and Repatriation Act of 1990 (PL 101-601; 104 Stat. 3048; 25 USC 3001)
- Executive Order No. 12898 – Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, February 11, 1994

- Executive Order No. 13007 – Indian Sacred Sites, May 24, 1996
- Executive Order No. 13084 – Consultation and Coordination with Indian Tribal Governments, May 14, 1998
- Government-to-Government Relations with Native American Tribal Governments (Memorandum signed by President Clinton; April 29, 1994)
- Order No. 3175 – Departmental Responsibilities for Indian Trust Resources (Section 2 of Reorganization Plan No. 3 of 1950 – 64 Stat. 1262; November 8, 1993)
- USDA Department Regulations 1340-007 and 1350-002
- Forest Service Manual Direction FSM 1500
- Forest Service Handbook Direction FSH 1509

The planning area is within the traditional and historical use area of the Blackfeet Tribe, Chippewa Cree Tribe, Confederated Salish-Kootenai Tribes, Confederated Tribes of the Colville Reservation, Confederated Tribes of the Umatilla Reservation, Crow Tribe, Eastern Shoshone Tribe, Nez Perce Tribe, Shoshone-Bannock Tribes, and the Shoshone-Paiute Tribes. These tribes lived, hunted, fished, gathered plant foods, buried their dead, and conducted religious ceremonies on lands within the planning area.

During the 1850s and 1860s, the US negotiated treaties with some tribes in order to acquire lands for homesteading. The treaties that apply to the project area include the Crow Treaty, Fort Benton Treaty, Fort Bridger Treaty, Hell Gate Treaty, Nez Perce Treaty, and Walla Walla, Cayuse, and Umatilla Treaty. More information on these specific treaties is presented below. No tribal treaties were afforded to the Chippewa Cree and the Confederated Tribes of the Colville Indian Reservation. The Shoshone-Paiute Tribes of the Duck Valley Indian Reservation assert aboriginal rights to their traditional homelands; however, the Boise Valley Treaty of 1864 and the Bruneau Valley Treaty of 1866 were never ratified. The Shoshone-Paiute Tribes believe that title to these lands was not relinquished and they continue to claim title, rights, and interests associated with these lands.

On May 7, 1868, the Crow Tribe and the US signed the Treaty with the Crows, 1868, referred to as the Crow Treaty (15 Stat. 649). In the Crow Treaty, the tribes relinquished ownership of thousands of acres of land to the US. The treaty also guaranteed a permanent homeland for the Crow Tribe in southeastern Montana, which became known as the Crow Reservation. Article 4 of the treaty also states the tribe's right to "hunt on the unoccupied lands of the US so long as game may be found thereon."

On October 17, 1855, the Blackfeet and the US signed the Blackfeet Treaty of Fort Benton, 1855, referred to as the Fort Benton Treaty (11 Stat. 657). In the Fort Benton Treaty, a great majority of the land was designated as common hunting ground for the Blackfeet and neighboring tribes. In 1888, lands were set aside in north-central Montana for the Blackfeet Indian Reservation.



On July 3, 1868, the Eastern Band Shoshone and Bannock Tribes and the US signed the Treaty with the Eastern Band Shoshoni and Bannack, 1868, referred to as the Fort Bridger Treaty (15 Stat. 673). In the Fort Bridger Treaty, the tribes relinquished ownership of approximately 20 million acres to the US. The Eastern Band Shoshone were guaranteed a permanent homeland in western Wyoming, which has become known as the Wind River Indian Reservation. The Bannock and other bands of Shoshone were guaranteed a permanent homeland as well which ended up being in southeast Idaho, known as the Fort Hall Indian Reservation. Article 4 of the treaty also retains the tribes' rights to hunt, fish, and gather natural resources (including timber), and provides other associative rights necessary to effectuate these rights on the unoccupied lands of the US.

On July 16, 1855, the confederated tribes of the Flathead, Kootenay (sic), and the Upper Pend d'Oreille Indians and the US signed the Treaty with the Flatheads, etc., 1855, referred to as the Hell Gate Treaty (12 Stat. 975). The treaty guaranteed a permanent homeland for the confederated tribes in northwestern Montana, which has become known as the Flathead Reservation. Article 3 of the treaty also retains the tribes, "privilege of hunting, gathering roots, and berries, and pasturing their horses and cattle upon open and unclaimed lands."

On June 11, 1855, the Nez Perce Tribe and the US signed the Treaty with the Nez Perces, 1855, referred to as the Nez Perce Treaty (12 Stat. 957). In the Nez Perce Treaty, the tribes relinquished ownership of millions of acres of land to the US. The treaty also guaranteed a permanent homeland for the Nez Perce Tribe in northern Idaho, which became known as the Nez Perce Reservation. Article 3 of the treaty also asserts the tribe's right to "take fish at all usual and accustomed places in common with citizens of the [Washington] Territory; and of erecting temporary buildings for curing, together with the privilege of hunting, gathering roots and berries, and pasturing their horses and cattle upon open and unclaimed land."

On June 9, 1855, the Walla Walla, Cayuses, and Umatilla tribes and the US signed the Treaty with the Walla Walla, Cayuse, etc., 1855 (12 Stat. 945). In the treaty, the tribes relinquished 6.4 million acres of land to the US. The treaty also guaranteed a permanent homeland for the Walla Walla, Cayuse, Umatilla, and other tribes in northeastern Oregon, which became known as the Confederated Tribes of the Umatilla Indian Reservation. Article 1 of the treaty also retained the tribes' right to "hunt, gather roots and berries, and pasture stock on unclaimed lands of the US."

The BLM manages portions of these "unoccupied or unclaimed lands." Members of the tribes affected by this proposed action exercise their hunting, fishing, and gathering rights on federal lands outside of the boundaries of their reservations. Currently, there is little specific information available on the exact animal species hunted, plant species gathered, or locations used by Native Americans exercising their treaty rights within the boundaries of the project area.

3.19 Visual Resources

Visual quality of western landscapes is an increasingly sensitive issue. Impacts on visual resources are identified as a significant issue to address in RMPs, Forest Plans, and major EISs such as the renewable energy and transmission programmatic environmental impact

statements. The general public's increasing awareness of the vertical scale, footprint, character and visible prominence associated with utility scale renewable energy and transmission line development has increasing the need for Visual Resource Management (VRM).

3.19.1 Conditions on BLM-Administered Lands

The BLM manages scenic values using the VRM program. VRM policy was initially launched in 1976 in response to both NEPA requirements placed on federal land management, and FLPMA requirements for scenery resource inventory and management. The BLM developed the current VRM policy manual (M-8400) and handbooks (H-8410-1, H-8431-1) in the mid-1980s to guide the field offices through an objective and systematic program for managing scenery resources.

VRM requires that the BLM field offices complete a visual resource inventory of the lands under their management control. The visual resource inventory is a systematic process for determining the visual values on the BLM-administered lands. The inventory process has three parts: scenic quality evaluation, sensitivity level analysis and delineation of distance zones. Based on the combinations of the three, BLM-administered lands can then be categorized as Class I (most valued and highest quality of scenery) down to Class IV (areas of low scenic quality and sensitivity at most or all distance zones). These inventory classes represent the existing visual resources.

VRM provides a way to inventory and classify visual resources, describe characteristic landscapes, determine contrasts from proposed actions, and potential mitigation from impacts on visual resources.

BLM Handbook 8410 describes the three basic landscape characteristics used to indicate visual resources in VRM: 1) scenic quality; 2) sensitivity levels; and 3) distance zones. Scenic quality is a measure of the visual appeal of a tract of land. Areas can be sub-divided into Scenic Quality Rating Units of similar visual character on the basis of like physiographic characteristics, similar visual patterns, texture, color, and variety; and areas which have similar impacts from man-made modifications. The size of the Scenic Quality Rating Units may vary from several thousand acres to 100 or less, depending on landscape feature similarities, and the desired inventory detail. Seven key factors determine the scenic quality of a unit: landform, vegetation, water, color, adjacent scenery, scarcity, and cultural modifications. Resource specialists consider these factors when ranking units for scenic quality (A = high, B = medium, C = low).

Visual sensitivity is a measure of public concern for scenic quality. BLM-administered lands are assigned high, medium, or low sensitivity levels by analyzing various indicators of public concern, such as: type of user, amount of use, public interest, adjacent land uses, and special areas.

Sensitivity level rankings are not available for the planning area.



Landscapes can be divided into three distance zones based on relative visibility from travel routes or observation points. They are foreground-middleground, background, and seldom seen. The foreground-middleground zone includes areas seen from highways, rivers, or other viewing locations that are less than five miles away. The background zone is generally between 5 and 15 miles away. The seldom-seen zone includes areas usually hidden from view.

During the resource management planning process, the BLM determines how the visual landscape will be managed in the future. The VRM decisions that are made in the planning process result in areas being assigned a VRM class. VRM classes determine how much change will be allowed in the landscape. VRM Class I areas are managed to preserve the existing character of the landscape and allow for limited management activity. Class II allows for low levels of landscape change that do not attract attention of the casual observer. Class III allows for moderate changes to the landscape that may attract attention but are not dominant and Class IV areas allow for high levels of landscape change.

The BLM uses a VRM contrast rating system that addresses form, line, color and texture of the landscape to determine if proposed projects are in compliance with the designated visual resource management class.

These management classes are separate from the visual resource inventory classes and guide management irrespective of the underlying visual resource (i.e., areas that have an inventory Class II could be designated and managed as a VRM Class IV to allow for major changes in the landscape).

In the past, especially in older management framework plans, BLM field offices would often adopt the VRM inventory classes as the management class (**Table 3-56**, BLM Visual Resource Management Class Acres). In some plans, the BLM did not make any decisions regarding the VRM classes. In such cases, the VRM inventory class has generally been used as the VRM class. A majority of the BLM-administered lands within the planning area do not have a current visual resource inventory.

Table 3-56
BLM Visual Resource Management Class Acres
(approximate for offices with designated VRM classes)

VRM Class	Class I	Class II	Class III	Class IV
Acres	510,924	2,058,432	3,983,572	2,052,936

3.19.2 Conditions on Forest Service-Administered Lands

Forest Service Manual 2380.3 requires the agency to “inventory, evaluate, manage, and, where necessary, restore scenery as a fully integrated part of the ecosystems of Forest Service-administered lands through the land and resource management and planning process.” Scenery must be treated equally with other resources. The Forest Service

developed a visual management system to provide a mechanism for inventory and analysis of landscape resources and the effects of land management activities on those resources.

The Forest Service established the Visual Management System in 1974 to inventory, evaluate, and manage scenic resources. The Visual Management System is described in Agriculture Handbook No. 462, National Forest Landscape Management. Using an established physiographic character type as a frame of reference, the Visual Management System determines the inherent scenic quality based on the different degrees of landscape variety within an area.

Inherent scenic quality is a measure of the natural landscape's scenic beauty based on attributes, such as landform, vegetation, water features, and rock formations. The basic assumption of the Visual Management System is that all landscapes have some inherent value, but those with the most variety and diversity have the greatest potential for "high scenic value." Three variety classes, designated A, B, and C, represent inherent scenic quality.

Sensitivity levels are identified in the Visual Management System and are defined as the measure of people's concern for the scenic quality of the landscape. Basically, all viewed landscape is rated for a level of sensitivity. Sensitivity levels are overlaid with distance zones to identify all the viewed and unseen landscape within a given area. The Visual Management System defines distance zones—that is, the distance from which a landscape is viewed—as foreground, middleground, and background. Distance zones are important in evaluating how change is perceived in the landscape because the closer the features in the landscape are to the viewer, the more pronounced they appear and the more detail is observed.

Visual quality objectives are determined in the Visual Management System by combining the sensitivity levels and scenic quality. Visual quality objectives are assigned to the landscape to describe the degree of acceptable alteration of the natural landscape. The Visual quality objectives classifications are Preservation, Retention, Partial Retention, Modification, and Maximum Modification. Preservation allows for ecological changes only, while Maximum Modification allows for landscape changes that may dominate the natural landscape character.

Scenery Management System

The Visual Management System process has been updated as the Scenery Management System, which is being incorporated into respective Forest Management Plans. The Scenery Management System is described in Landscape Aesthetics: A Handbook for Scenery Management (Forest Service 1995). Adoption of the Scenery Management System is to occur as each National Forest revises its LUP. For National Forests not currently undergoing the forest-plan revision process, or for those requiring extensive time for revision, application of the Scenery Management System will occur at the subforest or project level.

In general, the Scenery Management System differs from the Visual Management System in that it is integrated with ecosystem management and addresses landscape character, constituent preferences, scenic integrity, and landscape visibility as key aesthetic



considerations. Landscape character describes the visual patterns of form, line, color, texture, dominance, scale, and diversity of elements in the landscape and the cultural attributes that make the landscape identifiable and give it a “sense of place.” Constituent preferences convey the aesthetic experience of forest visitors, communities, and tourists and the significance of scenic quality to these user groups.

The Scenery Management System entails identifying the landscape character, visual sensitivity, and scenic integrity. The Scenery Management System provides an overall framework for the orderly inventory, analysis, and management of scenery. It is a tool for integrating the benefits, values, desires, and preferences regarding aesthetics and scenery for all levels of land management planning. The Scenery Management System also considers Concern Levels, which are a categorization of the importance of scenic resources to forest visitors.

Three concepts of the Scenery Management System are of key importance: (1) Scenic Attractiveness, (2) Landscape Character, and (3) Scenic Integrity. These concepts and landscape character are defined below:

Scenic Attractiveness is the primary indicator of the scenic importance of a landscape based on human perceptions of the intrinsic beauty of landforms, rock outcrops and forms, waterforms, vegetation patterns, and cultural features. It reflects varying visual perception attributes of variety, unity, vividness, intactness, coherence, uniqueness, harmony, balance, and pattern. The frame of reference for scenic attractiveness (generally at the section scale) is landscape character.

Three levels of scenic attractiveness are identified during the scenery inventory process: (A) Distinctive, (B) Common or Typical, and (C) Undistinguished (FSM 2380, Landscape Management).

Landscape character is a combination of physical, biological, and cultural images that gives an area its visual and cultural identity and helps to define a sense of place. Landscape character provides a frame of reference from which to determine scenic attractiveness and to measure scenic integrity (FSM 2380, Landscape Management).

Scenic Integrity Objectives define the degrees of deviation from the landscape character that occur at any given time by using the process described in Agriculture Handbook 701, Landscape Aesthetics: A Handbook for Scenery Management (FSM 2380, Landscape Management). When discussing Scenic Integrity Objectives, the degree of alteration is measured in terms of visual contrast with the surrounding natural landscape. The objectives of each Scenic Integrity Objectives classification are included below:

- Very High – Management activities, except for very low visual-impact recreation facilities, are prohibited. Allows for ecological changes only. The existing landscape character and sense of place is expressed at the highest possible level.
- High – Management activities are not visually evident to the casual observer. The landscape character appears intact. Deviations may be present but must repeat

the form, line, color, texture, and pattern common to the landscape character so completely and at such scale that they are not evident. Changes in the qualities of size, amount, intensity, direction, pattern, etc., should not be evident.

- Moderate – Management activities remain visually subordinate to the characteristic landscape being viewed. Activities may repeat form, line, color, or texture common to the characteristic landscape but may not change in their qualities of size, amount, intensity, direction, pattern, etc.
- Low – Management activities begin to visually dominate the original characteristic landscape. However, activities of vegetative and landform alteration must borrow from naturally established form, line, color, or texture so completely and at such a scale that its visual characteristics are those of natural occurrences within the surrounding area or character type. Structures must remain visually subordinate to the proposed composition.
- Very Low – Management activities of vegetative and landform alterations may dominate the characteristic landscape. While alterations may not borrow from attributes such as size, shape, edge effect, and pattern of natural openings, vegetative type changes, or architectural styles within or outside the landscape being viewed, they must be shaped and blended with the natural terrain so that elements such as unnatural edges, roads, landings, and structures do not dominate the composition.

Visual Management Classes

For both the BLM and Forest Service, where management decisions have been made to preserve and protect the visual characteristics of the landscape, these areas are likely to provide better habitat and protection for GRSG.

3.20 Lands with Wilderness Characteristics

The purpose and need of the National GRSG Planning Effort is limited to providing LUP guidance specific to the conservation of GRSG habitats. No decisions related to the management of lands with wilderness characteristics will be made as part of this planning effort; therefore, management of lands with wilderness characteristics is considered outside the scope of this plan amendment process. Impacts on lands with wilderness characteristics from the alternatives being analyzed for this planning effort are presented in **Section 4.14**.

Section 201 of FLPMA and BLM Manual Section 6310 require the BLM to maintain on a continuing basis an inventory of all BLM-administered lands and their resources and other values, which includes wilderness characteristics. It also provides that the preparation and maintenance of the inventory shall not, of itself, change or prevent change of the management or use of BLM-administered lands. Regardless of past inventory, the BLM must maintain and update as necessary, its inventory of wilderness resources on BLM-administered lands. In some circumstances conditions relating to wilderness characteristics may have changed over time, and an area that was once determined to lack wilderness



characteristics may now possess them. The BLM determines when it is necessary to update its wilderness characteristics inventory.

Under the following circumstances, the BLM considers whether to update a wilderness characteristics inventory or conduct a wilderness characteristics inventory for the first time:

1. The public or the BLM identifies wilderness characteristics as an issue during the NEPA process.
2. The BLM is undertaking a land use planning process.
3. The BLM has new information concerning resource conditions, including wilderness characteristics information submitted by the public that meets the BLM's minimum standard described in the Wilderness Characteristics Inventory Process section of this policy.
4. A project that may impact wilderness characteristics is undergoing NEPA analysis.
5. The BLM acquires additional lands.

There also may be other circumstances in which BLM will find it appropriate to update its wilderness characteristics inventory.

The original FLPMA Section 603 mandated inventories that were conducted during past RMP revisions and amendments and through other lands with wilderness characteristics inventory updates that have recently taken place. Inventories for wilderness characteristics were conducted between 2009 and 2013 and reflect the most up-to-date lands with wilderness characteristics baseline information for this planning area. For inventories that were conducted after 2011, findings were documented following guidance in BLM IM 2011-154, Requirement to Conduct and Maintain Inventory Information for Wilderness Characteristics and to Consider Lands with Wilderness Characteristics in Land Use Plans, which is now encompassed in BLM Manuals 6310 and 6320. Lands with wilderness characteristics inventories will be updated for any site-specific NEPA analyses that are conducted in the planning area. This will be to determine if a project will have impacts on lands with wilderness characteristics identified through previous or updated inventories.

The primary function of an inventory is to determine the presence or absence of wilderness characteristics. The BLM has completed lands with wilderness characteristics inventories in the Bruneau, Jarbidge, Salmon, Pocatello and Dillon Field Offices. Upper Snake has a draft inventory, and partial inventories have been completed in the Owyhee, Shoshone, and Burley Field Offices. The Pocatello Field Office found that it has no lands with wilderness characteristics. The Bruneau, Salmon, Owyhee, Burley, Shoshone, Dillon, and Jarbidge Field Offices found areas that do contain lands with wilderness characteristics.

Currently no Field Offices have taken their lands with wilderness characteristics through a complete planning process to determine how they will be managed. There are 252,296 acres

of lands with wilderness character within the planning area boundary (**Table 3-57**, Lands with Wilderness Characteristics within the Planning Area).

Table 3-57
Lands with Wilderness Characteristics within
the Planning Area

BLM Field Office	Acres
Bruneau	153,900
Burley	31,000
Dillon	68,400
Jarbridge	88,500
Owyhee	102,500
Salmon	7,300
Shoshone	760
Total	452,360

Source: BLM 2013a

Figure 3-16, Lands with Wilderness Characteristics and Roadless Areas in Planning Area, shows BLM Lands with Wilderness Characteristics and Forest Service Roadless Areas in the planning area.

3.21 Forest Service Roadless Areas

Under 36 CFR 294, the Forest Service designated Roadless Areas in Idaho (**Figure 3-16**). The purpose of designating Roadless Areas is to conserve areas with wilderness attributes.

The Forest Service organizes Roadless Areas into five management classifications. These management classifications are; 1. Wild Land Recreation, 2. Special Areas of Historic or Tribal Significance, 3. Primitive, 4. Backcountry/Restoration, and 5. General Forest, Rangeland, and Grassland. Management of Roadless Areas is impacted by the management classification into which a Roadless Area falls. The Forest Service restricts activities such as road construction and reconstruction, timber cutting, and mineral activities to various degrees under each management classification in order to protect Roadless Areas (36 CFR 294).

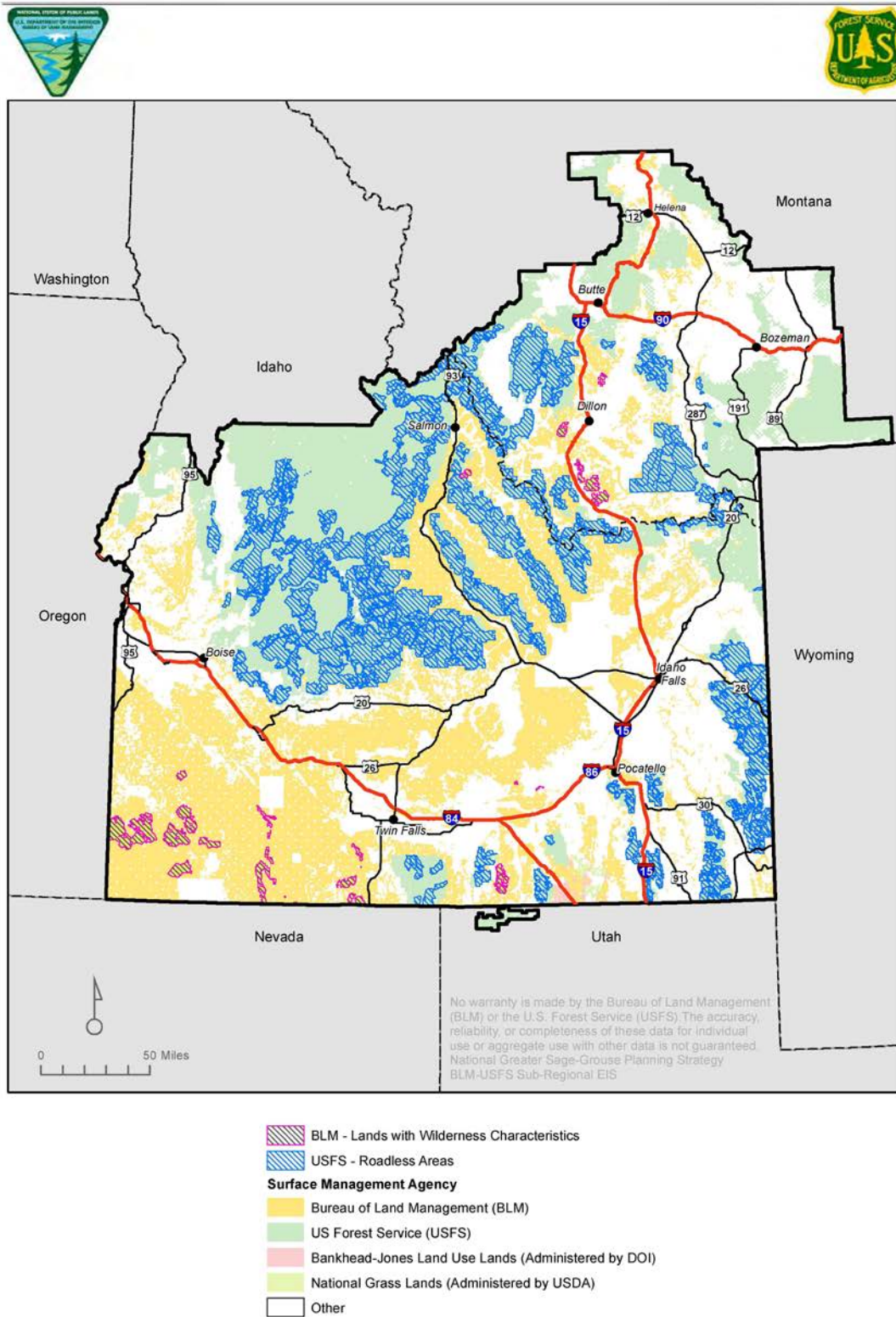
There are approximately 1,695,900 acres of Roadless Areas on Forest Service-administered lands.

3.22 Air Quality and Climate Change

Air resources include air quality, air quality related values, and climate change. As part of the decision making process, the BLM and Forest Service consider and analyze the potential effects of agency and agency-authorized activities on air resources.



Figure 3-16
Lands with Wilderness Characteristics and Roadless Areas in Planning Area



The US Environmental Protection Agency (USEPA) has the primary responsibility for regulating air quality, including seven criteria air pollutants subject to National Ambient Air Quality standards (NAAQS). Pollutants regulated under NAAQS include carbon monoxide (CO), lead, nitrogen dioxide (NO₂), ozone, particulate matter with a diameter less than or equal to 10 microns (PM₁₀), particulate matter with a diameter less than or equal to 2.5 microns (PM_{2.5}), and sulfur dioxide (SO₂). Two additional pollutants, nitrogen oxides (NO_x) and volatile organic compounds (VOCs), are regulated because they form ozone in the atmosphere. Air quality is determined by pollutant emissions and emission characteristics, atmospheric chemistry, dispersion meteorology, and terrain. Air quality related values include effects on soil and water, such as sulfur and nitrogen deposition and lake acidification, and aesthetic effects, such as visibility.

In addition to USEPA regulations, air quality is also regulated by the Idaho Department of Environmental Quality, Air Quality Division. This agency develops state-specific regulations and issues air quality permits to emission sources.

Climate is the composite of generally prevailing weather conditions of a particular region through the year, averaged over a series of years. Climate change includes both historic and predicted climate shifts that are beyond normal weather variations.

3.22.1 Conditions within the Planning Area

Air Quality

Human Health. The USEPA classifies areas of the US according to whether they meet the NAAQS. Areas that violate air quality standards are designated as nonattainment areas for the relevant criteria air pollutants. Areas that comply with air quality standards are designated as attainment areas for the relevant criteria air pollutants. Areas that have been reclassified from nonattainment to attainment are considered maintenance areas. The majority of the planning area is in attainment for all of the NAAQS.

The Air Quality Index is an USEPA health index that normalizes the various air pollutants in order to report one health level. The Air Quality Index is reported on a scale of 0 to 300, with 0 to 50 indicating good air quality; 51 to 100 indicating moderate air quality; 101 to 150 indicating air quality unhealthy for sensitive groups; 151 to 200 indicating unhealthy air quality; and 201 to 300 indicating very unhealthy air quality. Idaho Department of Environmental Quality publishes annual data summaries of Idaho's air quality that describe the Air Quality Index for all areas where air quality is monitored. The Air Quality Index is computed using the 24-hour average for PM_{2.5} and the eight hour average for ozone.

Visibility and Regional Haze. There are no mandatory Class I areas on BLM-administered lands in the planning area; all designated wilderness areas on BLM-administered lands are Class II.

Climate Change

Climate change is defined by the Intergovernmental Panel on Climate Change (IPCC) as “a change in the state of the climate that can be identified (e.g., using statistical tests) by changes



in the mean and/or the variability of its properties, and persist for an extended period, typically decades or longer. It refers to any change in climate over time whether due to natural variability to as a result of human activity (IPCC 2007).” Climate change is generally described on a global, national, or regional scale (state or multi-state), while greenhouse gas emissions in the US are generally reported on a national or statewide scale.

Climate change is manifested in several ways, of which the most commonly analyzed are precipitation, temperature, and snowpack. Temperature and precipitation data for the planning area were retrieved from WestMap, a climate analysis and tracking tool that uses hydrologic basins as the mapping unit.

Greenhouse Gas Emissions

There are six greenhouse gases tracked by the IPCC, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons, and sulfur hexafluoride (SF₆; US Department of State 2010). Hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride are also known as high global warming potential due to their warming effectiveness (140 to 23,900 times the warming potential compared to carbon dioxide, depending on the compound) and their essential permanence in the atmosphere (remaining over 3,000 years; US Department of State 2010; USEPA 2012). Carbon dioxide, methane, and nitrous oxide have both natural and human generated sources, while high global warming potential gases are strictly human generated from various industrial processes. Greenhouse gas emissions are tracked as carbon dioxide equivalents (CO₂e) with one gram of carbon dioxide molecule counting as one and other molecules some multiple. Emissions are usually reported in teragrams or million metric tonnes, which are equivalent measures (USEPA 2010).

In the US, USEPA tracks and reports greenhouse gas emissions; the Department of State also reports emissions.

Greenhouse gas emissions in the US and in Idaho are similar in terms of percentages and in the main sources of the different gases. Idaho’s greenhouse gases have remained about 1 percent of the US emissions from 1990 to 2010. Carbon dioxide is the primary greenhouse gas, comprising 83 to 85 percent of total emissions in the US and in Idaho, with fossil fuel combustion for energy the primary sources of carbon dioxide. Methane production accounts for 7 to 10 percent of greenhouse gas emissions. In the US, the primary source is natural gas systems, while in Idaho the primary source is enteric fermentation from domestic livestock. Nitrous oxide production accounts for 4 to 6 percent of the total emissions, slightly more in Idaho than in the US with agricultural soil management the primary sources.

The high global warming potential gas comprises 1 to 3 percent of total emissions, more in Oregon than in the US. The primary sources of hydrofluorocarbons are the production of substitutes for ozone-depleting compounds, while aluminum production and semiconductor manufacturing are the primary sources of perfluorocarbons and electricity transmission and distribution are the primary sources of sulfur hexafluoride.

The USEPA also estimates greenhouse gas sinks arising from land use, land use changes, and forestry. These sinks effectively reduce total greenhouse gas emissions by 15 to 16 percent nationally (USEPA 2010). The proportion in Idaho may be somewhat higher due to the productivity of Idaho forests.

3.22.2 Conditions on BLM-Administered and Forest Service-Administered Lands

Air Quality

Air quality conditions on BLM-administered and Forest Service-administered lands are generally as described for the planning area.

3.22.3 Trends

Air Quality

Human Health. There are no clear long term trends in particulate emissions or the number of unhealthy days in the planning area; the lack of trends maybe due to a number of factors. There are no trends in the number of wildfires of acres burned or in the prescribed burning programs of BLM districts or National Forests; there are also no documented trends in the other particulate emitting sectors. The recent downturn in the economy may have resulted in temporary or permanent changes in the number or types of particulate emitters. The 2010 Clean Air status and trends network report indicates that 2009 was the lowest year on the 15 year recorded for several criteria pollutants, with increases in 2010 (USEPA 2012). That trend would be consistent with the recent downturn and slow recovery. In the western states as a whole, mean annual sulfur dioxide and particulate sulfur concentrations, total nitrate levels, total nitrogen deposition, and ozone concentrations have declined between 1996 and 2010 (Hand et al. 2011; USEPA 2012).

Climate Change

Certain precipitation, temperature, and snowfall trends within the planning area are similar, while others differ. The reasons for the observed differences are not clear. In the Oregon closed basins, precipitation has increased annually and in all four season, with the greatest seasonal increase in spring. Temperatures are also increasing, with greater increases in minimum temperature in winter and summer, consistent with observed national and global trends. Even temperatures are warming, above a threshold elevation that varies by mountain range; temperatures are still cold enough for winter precipitation to fall as snow. The combination of warmer temperatures and increased water vapor means that either more snow, snow with a higher moisture content, or some combination of these two factors will occur.

Projections

Karl et al. (2009) summarize the observed trends and projections in climate for the US, with an updated report due in 2013. In the US, average temperature has risen 2 degrees Fahrenheit (°F) in the last 50 years, compared to the 1961 to 1979 baseline, and is projected to increase by 2 to 3°F by the 2020s. Precipitation has increased by 5 percent in the last 50 years. Summers are expected to become drier over most of the US, and winters are expected to become wetter. Spring is expected to become drier in the southern tier of the US. The amount of rain falling in the heaviest storms has increased by 20 percent. This trend is



expected to continue, with the greatest increase in the wettest places. In contrast, the amount of rain falling in the lightest storms has decreased, with the trend expected to continue. Extreme weather events such as heat waves and drought have become more frequent and more intense. Heat event frequency is expected to increase from 1 every 20 years to 1 every 2 to 3 years, with the number of days above 90°F increasing as well. Snowpack is expected to decrease, especially in the western US. Cold season storm tracts should continue to shift northward, and the strongest winter storms are expected to become stronger and more frequent.

For the Pacific Northwest (Oregon, Washington, Idaho, and western Montana) the projections are somewhat different than for the US as a whole (Mote and Salathe 2010). Most climate models tend to over predict precipitation as compared to observed means in the Pacific Northwest, so must be corrected in any projections. In the Pacific Northwest, temperatures are expected to increase by about 1 to 3 degrees by the 2020s, 1.5 to 5 by mid-century, and 3 to 10 by the end of the century. The greatest warming is expected in summer, and least is expected in spring. Annual precipitation is expected to change little, but summers should become drier and all other seasons possibly wetter. As with the US as a whole and globally, the frequency of extreme precipitation events, heat waves, and droughts are expected to increase, and snowpack is expected to decrease.

Greenhouse Gas Emissions

Between 1990 and 2010, total us greenhouse gas emissions increased by 10.5 percent, averaging 0.5 percent per year (USEPA 2012). Carbon dioxide emissions, particularly those associated with energy production and use, are the dominant factor in US trends. Emissions from fossil fuel combustion increased by 13.7 percent between 1990 and 2010, and increased by 3.5 percent between 2009 and 2010. Emissions tend to decline during economic slowdowns and increase during economic recoveries. Emissions in Idaho followed similar trends as the US as a whole. The State Department (2010) projected greenhouse gas emissions for 2015 and 2020 based on data through 2007. Carbon dioxide emissions are expected to increase only slightly from 2007 levels, although the projected increase is considerably lower than the observed trend. All other emissions are expected to increase as well, with the least increase in methane and the most increase in the high global warming potential gases.

3.23 Social and Economic Conditions (Including Environmental Justice)

Due to the nature of social, economic, and environmental justice conditions, the social and economic analysis is based on a somewhat different area for analysis than is used for other resources. Specifically, the Socioeconomic Study Area is made up of counties within the Idaho-Southwestern Montana sub-region that contain GRSG habitat and within which social and economic conditions might reasonably be expected to change based on alternative management actions. In addition, the BLM reviewed the need to include additional counties within a secondary study area that may not contain GRSG habitat but are closely linked from an economic and/or social perspective to counties that do contain habitat. This latter category includes what are sometimes called “service area” counties, or counties from which businesses operate that regularly provide critical economic services, such as recreational

outfitting or support services for the livestock grazing sector, within the counties that contain habitat (METI Corp/Economic Insights of Colorado 2012). Including service area counties is important because a change in economic activity in a county containing habitat may result in changes in economic activity within service area counties as well.

The Socioeconomic Study Area contains 27 counties in Idaho: Adams, Bear Lake, Bingham, Blaine, Bonneville, Butte, Camas, Caribou, Cassia, Clark, Custer, Elmore, Fremont, Gem, Gooding, Jefferson, Jerome, Lemhi, Lincoln, Madison, Minidoka, Oneida, Owyhee, Payette, Power, Twin Falls, and Washington; and two counties in Montana: Beaverhead and Madison. Each of these counties contains GRSG habitat. A secondary study area is included that contains an additional four counties in Idaho: Ada, Bannock, Boise, and Canyon; and two counties in Montana: Gallatin and Silver Bow. All of these counties are included in the secondary study area because of identified links to the primary area based on commuter patterns (OMB 2009; US Census Bureau 2012a).¹¹

Table 3-58, Commuter Patterns in the Socioeconomic Study Area, 2010, shows the share of workers employed in a given county of the Primary and Secondary Socioeconomic Study Areas and that reside in the same county. It also shows other counties that provide labor to the selected primary or secondary study area.

Table 3-58
Commuter Patterns in the Socioeconomic Study Area, 2010

Geographic Area of Employment	Live in Same Area of Employment	Other Counties Where Considerable Share of Workers Live
Primary Socioeconomic Study Area		
Adams County, Idaho	69.4%	Valley (7.3%), Idaho (6.7%), Washington (3.5%)
Bear Lake County, Idaho	77.2%	Ada (2.7%), Bannock (2.4%)
Bingham County, Idaho	64.3%	Bannock (10.2%), Bonneville (9.5%), Ada (2.0%)
Blaine County, Idaho	70.9%	Ada (6.7%), Lincoln (3.6%), Canyon (2.6%), Twin Falls (2.6%)
Bonneville County, Idaho	61.0%	Bingham (8.7%), Jefferson (8.3%), Bannock (6.3%), Madison (3.3%), Ada (2.5%)

¹¹ Other counties considered but excluded from the secondary area were: (a) Valley County, Idaho, which has its main commuter tie to Ada County, Idaho, a secondary area county; (b) Franklin County, Idaho, which has its main commuter tie to Cache County, Utah, a county outside of the Socioeconomic Study Area; (c) Teton County, Idaho, which has its main commuter tie to Teton County, Montana, a county outside of the Socioeconomic Study Area; (d) Jefferson and Broadwater Counties, Montana, both of which have their main commuter ties to Lewis and Clark County, Montana, a county outside of the Socioeconomic Study Area; (e) Ravalli County, Montana, which has its main commuter tie outside the primary study area, is linked to the Salmon Challis National Forest or the Beaverhead Deerlodge National Forest, but is less likely to be affected by GRSG habitat management alternatives because GRSG habitat is concentrated in the southeast of Lemhi County, Idaho, at a distance from Ravalli County; (f) Deer Lodge and Park counties in MT, whose main ties are to Silver Bow and Gallatin, counties of the secondary area; and (g) the counties of Missoula, Granite, and Powell (all in Montana) were not included in the secondary study area because the Beaverhead Deerlodge National Forest areas potentially affected by GRSG habitat management alternatives are located considerably to the south of those counties.



Table 3-58
Commuter Patterns in the Socioeconomic Study Area, 2010

Geographic Area of Employment	Live in Same Area of Employment	Other Counties Where Considerable Share of Workers Live
Butte County, Idaho	21.5%	Bonneville (40.9%), Bingham (14.2%), Bannock (7.6%), Jefferson (6.5%), Custer (2.1%), Madison (2.0%)
Camas County, Idaho	58.5%	Gooding (10.9%), Blaine (8.3%), Twin Falls (5.7%), Jerome (3.0%), Ada (2.6%), Elmore (2.6%)
Caribou County, Idaho	56.8%	Bannock (11.4%), Bear Lake (9.8%), Ada (2.8%), Bonneville (2.8%), Franklin (2.8%)
Cassia County, Idaho	49.9%	Minidoka (23.8%), Twin Falls (6.8%), Ada (3.0%), Jerome (2.5%), Bonneville (2.1%)
Clark County, Idaho	51.4%	Bonneville (18.3%), Jefferson (18.3%), Bannock (2.2%), Madison (2.2%)
Custer County, Idaho	65.7%	Lemhi (13.6%), Butte (2.8%), Bonneville (2.7%), Ada (2.6%)
Elmore County, Idaho	69.7%	Ada (11.3%), Canyon (4.2%), Twin Falls (2.3%)
Fremont County, Idaho	70.5%	Madison (10.3%), Bonneville (6.2%), Jefferson (2.9%)
Gem County, Idaho	60.0%	Ada (15.4%), Canyon (10.7%), Payette (2.7%)
Gooding County, Idaho	48.5%	Twin Falls (17.3%), Jerome (10.7%), Lincoln (2.5%), Ada (2.3%)
Jefferson County, Idaho	51.6%	Bonneville (23.7%), Madison (8.4%), Bingham (2.4%)
Jerome County, Idaho	42.8%	Twin Falls (26.1%), Gooding (8.8%), Ada (3.3%), Cassia (2.4%), Minidoka (2.2%)
Lemhi County, Idaho	88.1%	Bonneville (2.1%)
Lincoln County, Idaho	49.7%	Twin Falls (14.2%), Gooding (12.4%), Jerome (7.0%), Minidoka (3.3%), Blaine (2.0%)
Madison County, Idaho	49.6%	Bonneville (12.9%), Fremont (12.2%), Jefferson (9.5%), Bannock (3.2%), Bingham (2.3%)
Minidoka County, Idaho	54.9%	Cassia (19.7%), Twin Falls (7.2%), Ada (2.3%), Bannock (2.2%)
Oneida County, Idaho	78.3%	Bannock (7.0%), Bonneville (2.5%), Box Elder, UT (2.1%)
Owyhee County, Idaho	42.2%	Canyon (31.5%), Ada (8.2%), Elmore (4.3%), Malheur, OR (2.4%),
Payette County, Idaho	51.3%	Canyon (14.4%), Malheur, OR (10.4%), Ada (8.0%), Washington (4.6%), Gem (3.4%)
Power County, Idaho	45.5%	Bannock (24.2%), Bingham (6.5%), Twin Falls (5.0%), Ada (2.7%)
Twin Falls County, Idaho	64.8%	Jerome (7.0%), Ada (5.2%), Gooding (2.6%), Cassia (2.6%), Canyon (2.5%), Minidoka (2.5%)
Washington County, Idaho	63.4%	Payette (6.3%), Ada (4.7%), Malheur, OR (4.5%), Canyon (4.5%)
Beaverhead County, Montana	62.1%	Lewis and Clark (6.9%), Yellowstone (6.7%), Silver Bow (5.7%), Gallatin (3.6%), Missoula (3.2%), Cascade (2.8%)
Madison County, Montana	67.8%	Gallatin (17.3%), Jefferson (3.0%)

Table 3-58
Commuter Patterns in the Socioeconomic Study Area, 2010

Geographic Area of Employment	Live in Same Area of Employment	Other Counties Where Considerable Share of Workers Live
Secondary Socioeconomic Study Area		
Ada County, Idaho	71.9%	Canyon (14.9%)
Bannock County, Idaho	68.6%	Bonneville (6.5%), Bingham (6.5%), Ada (2.8%), Twin Falls (2.2%)
Boise County, Idaho	77.0%	Ada (12.2%), Gem (3.4%), Canyon (2.5%)
Canyon County, Idaho	60.2%	Ada (24.7%), Owyhee (2.7%)
Gallatin County, MT	77.6%	Yellowstone (3.1%), Park (2.8%), Lewis and Clark (2.9%)
Silver Bow County, MT	64.8%	Missoula (5.8%), Deer Lodge (4.4%), Lewis and Clark (4.4%), Gallatin (3.5%), Jefferson (2.3%), Cascade (2.1%), Yellowstone (2.0%)

Source: US Census Bureau 2012a

Because any effects on the secondary study area would be indirect and sometimes focused on specific sectors, this chapter focuses primarily on the social and economic conditions of the Socioeconomic Study Area and provides what is necessary to convey appropriate context for the impact analysis. The impact analysis in the next chapter will document potential effects on both the primary and the secondary study areas.

Table 3-59, BLM and Forest Service Plans, Management Units, and Counties within the Socioeconomic Study Area, shows the planning documents that may be altered by the Idaho-Southwestern Montana sub-region planning process and the counties containing GRSG habitat within the area encompassed by those plans.

Table 3-59
BLM and Forest Service Plans, Management Units, and Counties within the Socioeconomic Study Area

Agency	Plan or Document	Management Unit	Counties
BLM	Birds of Prey National Conservation Area RMP (2008)	Four Rivers Field Office	Ada, Canyon, Elmore, Owyhee (Idaho)
	Bruneau RMP revision	Bruneau Field Office	Owyhee (Idaho)
	Challis RMP (1999)	Challis Field Office	Custer, Lemhi (Idaho)
	Craters of the Moon National Monument RMP (2006)	Shoshone Field Office	Blaine, Butte, Lincoln, Minidoka, Power (Idaho)
	Dillon RMP (2006)	Dillon Field Office	Beaverhead, Madison (Montana)



Table 3-59
BLM and Forest Service Plans, Management Units, and Counties within the Socioeconomic Study Area

Agency	Plan or Document	Management Unit	Counties
	Four Rivers RMP revision	Four Rivers Field Office	Ada, Adams, Boise, Canyon, Elmore, Gem, Payette, Valley, Washington (Idaho)
	Jarbridge RMP revision	Jarbridge Field Office	Elmore, Owyhee, Twin Falls (Idaho); Elko (Nevada)
	Lemhi RMP (1987)	Salmon Field Office	Lemhi (Idaho)
	Owyhee RMP (1999)	Owyhee Field Office	Owyhee (Idaho)
	Pocatello RMP revision	Pocatello Field Office	Bannock, Bear Lake, Bingham, Bonneville, Caribou, Cassia, Franklin, Oneida, Power (Idaho)
	Shoshone-Burley RMP revision	Shoshone Field Office, Burley Field Office	Blaine, Camas, Elmore, Jerome, Minidoka, Power (Idaho)
	Upper Snake RMP revision	Upper Snake Field Office	Blaine, Bingham, Bonneville, Butte, Clark, Fremont, Jefferson, Madison, Power, Teton (Idaho)
Forest Service	Beaverhead-Deerlodge National Forest Plan (2009)	Dillon, Wise River, Wisdom, Butte, Jefferson, Pintler, and Madison Ranger Districts	Granite, Powell, Jefferson, Deer Lodge, Silver Bow, Madison, Gallatin, Beaverhead (Montana)
	Boise National Forest Plan, as amended in 2010	Cascade, Lowman, Emmett, Mountain Home, and Idaho City Ranger Districts	Valley, Boise, Elmore, Gem, Ada (Idaho)
	Caribou National Forest Revised Forest Plan (2003)	Montpelier, Soda Springs, and Westside Ranger Districts	Caribou, Bonneville, Bannock, Bear Lake, Oneida, Franklin, Power (Idaho); Lincoln (Wyoming); Box Elder, Cache (Utah)
	Challis National Forest Plan (1987)	Challis, Lost River, Middle Fork, and Yankee Fork Ranger Districts	Custer, Lemhi, Butte, Valley, Blaine, Clark (Idaho)
	Curlew National Grassland Management Plan (2002)	Westside Ranger District	Oneida, Power (Idaho)
	Salmon National Forest Plan (1988)	Cobalt, Leadore, North Fork, and Salmon Ranger Districts	Idaho, Lemhi, Valley (Idaho)
	Sawtooth National Forest Revised Forest Plan (2003)	Fairfield, Ketchum, Minidoka, and Sawtooth National Recreation Area Ranger Districts	Blaine, Boise, Cassia, Camas, Custer, Elmore, Oneida, Power, Twin Falls (Idaho); Box Elder (Utah)

Table 3-59
BLM and Forest Service Plans, Management Units, and Counties within the Socioeconomic Study Area

Agency	Plan or Document	Management Unit	Counties
	Targhee National Forest Plan (1997)	Ashton/Island Park, Dubois, Palisades, and Teton Basin Ranger Districts	Bonneville, Butte, Clark, Fremont, Jefferson, Lemhi, Madison, Teton (Idaho); Lincoln, Teton (Wyoming)

Because of the nature of the Socioeconomic Study Area, the socioeconomic resources section has a slightly different format than the other resource analyses in the EIS. Rather than proceeding by field office and National Forest, the section provides information for the entire Socioeconomic Study Area except where the relevant information or data is tabulated for the specific geographic area of Field Office or National Forest. In addition, the analysis presents information about existing conditions and trends within the same section, because that is the common practice for analysis of social and economic conditions.

3.23.1 Indicators

Many of the indicators used to characterize social and economic conditions are quantitative, including population, demographics (e.g., age and gender breakouts), local industry (e.g., recreation and mineral development), employment, personal income, and presence of minority and low-income populations. Other indicators, especially for social conditions, are qualitative.

3.23.2 Existing Conditions and Trends

Social Conditions

Social conditions concern human communities, including towns, cities, and rural areas, and the custom, culture, and history of the area as it relates to human settlement, as well as current social values.

Population and Demographics

Table 3-60, Population Growth, 1990-2010, shows current and historic populations in the Socioeconomic Study Area.

Table 3-60
Population Growth, 1990-2010

Geographic Area	1990	2000	2010	Percent Change (1990-2010)	Population as Percentage of Study Area Total (2010)
Adams County, Idaho	3,254	3,476	3,976	22.2%	0.6%
Bear Lake County, Idaho	6,084	6,411	5,986	-1.6%	0.9%
Bingham County, Idaho	37,583	41,735	45,607	21.4%	6.6%



Table 3-60
Population Growth, 1990-2010

Geographic Area	1990	2000	2010	Percent Change (1990-2010)	Population as Percentage of Study Area Total (2010)
Blaine County, Idaho	13,552	18,991	21,376	57.7%	3.1%
Bonneville County, Idaho	72,207	82,522	104,234	44.4%	15.2%
Butte County, Idaho	2,918	2,899	2,891	-0.9%	0.4%
Camas County, Idaho	727	991	1,117	53.6%	0.2%
Caribou County, Idaho	6,963	7,304	6,963	0.0%	1.0%
Cassia County, Idaho	19,532	21,416	22,952	17.5%	3.3%
Clark County, Idaho	762	1,022	982	28.9%	0.1%
Custer County, Idaho	4,133	4,342	4,368	5.7%	0.6%
Elmore County, Idaho	21,205	29,130	27,038	27.5%	3.9%
Fremont County, Idaho	10,937	11,819	13,242	21.1%	1.9%
Gem County, Idaho	11,844	15,181	16,719	41.2%	2.4%
Gooding County, Idaho	11,633	14,155	15,464	32.9%	2.3%
Jefferson County, Idaho	16,543	19,155	26,140	58.0%	3.8%
Jerome County, Idaho	15,138	18,342	22,374	47.8%	3.3%
Lemhi County, Idaho	6,899	7,806	7,936	15.0%	1.2%
Lincoln County, Idaho	3,308	4,044	5,208	57.4%	0.8%
Madison County, Idaho	23,674	27,467	37,536	58.6%	5.5%
Minidoka County, Idaho	19,361	20,174	20,069	3.7%	2.9%
Oneida County, Idaho	3,492	4,125	4,286	22.7%	0.6%
Owyhee County, Idaho	8,392	10,644	11,526	37.3%	1.7%
Payette County, Idaho	16,434	20,578	22,623	37.7%	3.3%
Power County, Idaho	7,086	7,538	7,817	10.3%	1.1%
Twin Falls County, Idaho	53,580	64,284	77,230	44.1%	11.2%
Washington County, Idaho	8,550	9,977	10,198	19.3%	1.5%
Beaverhead County, Montana	8,424	9,202	9,246	9.8%	1.3%
Madison County, Montana	5,989	6,851	7,691	28.4%	1.1%
Socioeconomic Study Area	420,204	491,581	562,795	33.9%	100.0%
Idaho	1,006,734	1,293,953	1,567,582	55.7%	-
Montana	799,065	902,195	989,415	23.8%	-
United States	248,790,925	281,421,906	308,745,538	24.1%	-

Sources: US Census Bureau 1990, 2000, 2010a

Since 1990, the population in Idaho has increased by 55.7 percent, more than doubling the United States population growth rate (24.1 percent) during the same time period. In contrast, Montana's population has grown 23.8 percent, closer to the rate of the United States as a whole. Both states experienced a higher percentage of population growth from 1990 to 2000 than they did from 2000 to 2010. The Socioeconomic Study Area population growth also

The “Communities of Place” section below provides more information about the character and history of the counties in the Socioeconomic Study Area. **Table 3-61**, Demographic Characteristics, Share in Total Population (percent), 2010, shows age and gender characteristics of the population in each county of the Socioeconomic Study Area.

Table 3-61
Demographic Characteristics, Share in Total Population (percent), 2010

Geographic Area	Women	20 to 64 Years of Age	Under 20 Years of Age	65 Years of Age or Older
Adams County, Idaho	48.7	58.2	21.0	20.8
Bear Lake County, Idaho	50.4	52.1	29.5	18.4
Bingham County, Idaho	49.8	52.8	35.8	11.4
Blaine County, Idaho	49.1	62.4	26.0	11.6
Bonneville County, Idaho	50.1	55.2	33.9	10.9
Butte County, Idaho	48.6	52.5	30.0	17.5
Camas County, Idaho	47.9	61.1	23.0	15.9
Caribou County, Idaho	49.6	53.3	30.9	15.8
Cassia County, Idaho	49.4	51.1	36.0	12.9
Clark County, Idaho	44.7	53.7	33.2	13.1
Custer County, Idaho	46.9	60.1	21.2	18.7
Elmore County, Idaho	48.3	58.9	31.1	10.0
Fremont County, Idaho	47.4	52.2	33.9	13.9
Gem County, Idaho	50.5	54.4	27.0	18.6
Gooding County, Idaho	48.3	52.6	32.3	15.1
Jefferson County, Idaho	49.8	52.2	38.2	9.6
Jerome County, Idaho	48.9	54.7	34.1	11.2
Lemhi County, Idaho	49	56.1	21.7	22.2
Lincoln County, Idaho	48.3	53.9	35.1	11.0
Madison County, Idaho	51.6	59.1	35.3	5.6
Minidoka County, Idaho	49.4	53.0	32.2	14.8
Oneida County, Idaho	48.9	51.1	32.2	16.7
Owyhee County, Idaho	48.9	54.1	31.9	14.0
Payette County, Idaho	50.5	53.3	31.4	15.3
Power County, Idaho	48.5	53.9	34.0	12.1
Twin Falls County, Idaho	50.6	55.7	30.4	13.9
Washington County, Idaho	50.8	52.4	27.1	20.5
Beaverhead County, Montana	48.8	58.9	24.2	16.9
Madison County, Montana	48	59.6	19.4	21.0
Socioeconomic Study Area	49.5	56.7	30.8	12.5
Idaho	49.9	57.2	30.4	12.4
Montana	49.8	59.9	25.3	14.8
United States	50.8	60.1	26.9	13.0

Source: US Census Bureau 2010b



The Socioeconomic Study Area, Idaho, Montana, and the United States all generally follow the same trend in gender, with approximately half of the population being female. Of the counties within the Socioeconomic Study Area, Clark County, Idaho (44.7 percent) and Custer County, Idaho (46.9 percent) have the lowest percentages of women. And only one county, Madison County, Idaho (51.6 percent) has a higher percentage of women than the nation.

Idaho and the Socioeconomic Study Area have a younger population than the nation: each having 57 percent of the population between 20 and 64 years of age compared to 60 percent of the national population, and more than 30 percent of the population less than 20 years of age compared to only 27 percent of the national population. In contrast, Montana has a slightly older population than the nation, having nearly 15 percent of the population being 65 years or older compared to only 13 percent of the national population. Of the counties within the Socioeconomic Study Area, Bingham County, Idaho; Cassia County, Idaho; Jefferson County, Idaho; Jerome County, Idaho; Lincoln County, Idaho; Madison County, Idaho; and Power County, Idaho, have the highest percentages of residents under the age of 20, all at least 7 percentage points higher than the national average (60.1 percent). In contrast, Adams County, Idaho; Lemhi County, Idaho; Washington County, Idaho; and Madison County, Montana, have the highest percentages of residents over the age of 65, all at least 7 percentage points higher than the national average (13 percent).

Interest Groups and Communities of Place

There is a range of interest groups in the Socioeconomic Study Area, including groups that focus advocacy on resource conservation and others that focus advocacy on resource uses such as livestock grazing. There are also groups that represent coalitions of interest groups. A list of interest groups that have requested to receive a copy of the LUPA/DEIS are provided in Chapter 5. The types of interest groups identified within the Socioeconomic Study Area include the following: federal agencies, state agencies, county agencies, local agencies, congressional representatives, local representatives, academic institutions, civic organizations, local chambers of commerce, environmental groups, land conservation groups, outdoors groups, local school boards, farm associations, Native American groups and Tribal Governments, and various business groups. Specific types of business interest groups identified include the following: real estate, tourism, mineral extraction, farms/ranches, textile manufacturers, livestock growers, and news media.

The Socioeconomic Study Area includes various communities of people who are bound together because of where they reside, work, visit, or otherwise spend a continuous portion of their time. Stakeholder groups currently benefitting from BLM-administered and Forest Service-administered lands within the Socioeconomic Study Area include those associated with agriculture and livestock production; forest products; mining; travel, tourism, and recreation; and local residents (see, for example, BLM 2006 and 2008; Forest Service 2003).

A common perception is that there is a dichotomy of values and attitudes between stakeholder groups in the Socioeconomic Study Area between individuals or groups who feel that resource conservation and nonconsumptive uses of BLM-administered lands are more important than benefits derived from consumptive type uses, such as livestock grazing,

timber harvesting, and mining. At a more nuanced scale, however, personal attitudes, interests, and values are quite complex, and these groupings are not mutually exclusive. The high value that residents and visitors place on small town character, private property rights, low population density, scenery and landscape, outdoors and open space, the rural lifestyle, fishing, and hunting are commonly held throughout the Socioeconomic Study Area (BLM 2006 and 2008; Forest Service 2003). These values are also commonly expressed within individual county land use plans, and were also expressed by attendees at both scoping meetings and the Economic Strategies Workshop that BLM and Forest Service held in Twin Falls, Idaho, in June 2012.

A unifying theme expressed by residents of the Socioeconomic Study Area – including in previous planning processes – is the concern for the preservation of rural characteristics and values. For example, a shift toward larger, more mechanized agricultural operations, as well as the increasing diversification of local economies, have challenged traditional ways of life in many communities. These changes are evident in the declining number of mid-sized farms and the number of workers employed in agriculture and agriculture-based industries (Blaine County 1994; Power County 2009; Headwaters Economics 2012; US Department of Commerce 2012a). Nevertheless, farming and ranching remain important parts of the economy, society, and culture across the Socioeconomic Study Area.

In some areas, particularly those with scenic and recreational amenities, farmlands and ranches are being sold and used for recreation purposes or subdivided for homesites. This phenomenon is part of a larger trend in which many rural communities in the western United States have witnessed "migration turnaround," a reversal of the rural-to-urban migration that characterized much of the United States prior to the 1970s. Many rural areas are now experiencing a significant increase in population after decades of stability or decline (BLM 2006). In response to recent commercial and industrial expansion and the associated demand for affordable, diversified housing, many counties are encouraging infill development and other strategies to prevent the loss of agricultural lands and maintain the rural character of their communities (Caribou County 2006).

Despite population increases across most of the study area, some rural areas continue to lose population (Idaho Department of Labor 2011). This is due, in part, to the out-migration of young people and aging of the population (Idaho Commerce & Labor 2005). In contrast to communities where in-migration is occurring, residents of these communities may be more concerned about the economic survival of their communities. Multiple use management of and access to BLM-administered lands, which comprise a large portion of lands in many counties, are cited as paramount concerns in these areas (BLM 2006). Residents expressed some similar themes during public scoping and the June 2012 Economic Strategies Workshop for this planning effort (BLM and Forest Service 2012; BLM 2012b). Comments received from these outreach efforts came from nonprofit or citizen groups; local, state and federal agencies; the commercial sector and members of the general public. These comments strongly supported maintaining or expanding access to BLM-administered lands for grazing and recreational purposes. Many expressed concern that placing additional constraints on these activities might create economic hardship within their communities and alter



traditional cultural values and lifestyles. Additionally, some argued that constraints on livestock grazing would exacerbate existing trends of conversion of ranch lands to agricultural and residential uses, perhaps with the unintended consequence of decreasing open space and wildlife habitat. Other issues of concerns cited by residents include the management of invasive species, fire and fuels, and whether BLM-administered lands should be opened to wind energy development.

Economic activity and land use patterns in the Socioeconomic Study Area have been strongly influenced by the region's dramatic geography. Agriculture, timber harvesting, and mining have historically defined the character and lifestyle of much of the Study Area. Within the past two decades, however, increasing urbanization and the growth of service sector industries, including retail trade, local government, and health care, have been powerful agents of change on the landscape and local cultures (Headwaters Economics 2012; US Department of Commerce 2012a).

The rolling hills and valleys of the Northern Basin and Range, which stretches across much of southern Idaho, provide ample opportunities for livestock grazing with occasional croplands, and contains all or substantial parts of Caribou, Cassia, Oneida, Owyhee, Power, and Twin Falls Counties (McGrath et al. 2002). The region is still heavily dependent on agriculture and agriculture-based industries, despite stagnant or declining employment in these sectors (Headwaters Economics 2012; US Department of Commerce 2012a). Twin Falls is the most populous city in the Socioeconomic Study Area and the seventh largest city in the State of Idaho, and serves as the major commercial and industrial hub of south-central Idaho's Magic Valley region, so named due to the transformation of the basin into productive farmland through the construction of extensive irrigation systems in the early 1900s. Twin Falls is also the principal city of the Twin Falls, Idaho Micropolitan Statistical Area, which includes Jerome and Twin Falls Counties.

The broad Snake River Plain that arcs just north of Idaho's Basin and Range region contains all or substantial parts of Ada, Adams, Bingham, Canyon, Elmore, Gem, Gooding, Jefferson, Jerome, Lincoln, Madison, Minidoka, Payette, and Washington Counties. Potatoes, sugar beets, alfalfa, grains, and vegetables are grown in areas where irrigation and soil depth are suitable for crop production (McGrath et al. 2002). Other prominent land uses include livestock grazing, cattle feedlots, and dairy operations. The barren, lava-field landscape of Craters of the Moon National Monument is a popular visitor attraction showcasing the region's unique geologic history. Upward trends in population growth, fueled by expansion in the retail trade and small manufacturing sectors over the past decade, have left some school districts and governmental service struggling to provide maintain adequate levels of service (Jefferson County 2005).

Butte, Camas, Clark, Custer, and Lemhi Counties are located in Idaho's Rocky Mountain region, which rises sharply from the northern edge of the Snake River Plain. Here, timber harvesting, grazing, and recreation are the predominant land uses (McGrath et al. 2002). The counties of Bonneville, Butte, Caribou, and Fremont in Idaho and Beaverhead, and Madison in southwestern Montana also offer abundant opportunities for outdoor recreation. Popular activities include fishing, hunting, hiking, horseback riding, off-highway vehicle use, skiing,

and sightseeing, which attract residents, as well as visitors from all areas of the United States (BLM, 2005b, 2008). In many communities, growth in tourism and recreation industries has largely outpaced historical land uses. The in-migration of residents who purchase smaller ranches or farms, but do not depend on the economic return from these activities as their primary source of income, has created conflict with long-time rural residents (BLM 2008).

Bear Lake County, which occupies the far southeastern corner of Idaho and the Wasatch and Uinta Range, has remained largely rural but serves also as an important destination for tourists and recreationists.

County Land Use Plans

BLM-administered, Forest Service-administered, and other federal lands in the Socioeconomic Study Area are intermingled with state and private lands. County governments have land use planning responsibility for the private lands located within their jurisdictions. County-level LUPs (also referred to as Comprehensive plans or Growth Policies) were identified for 26 of the 29 counties within the Socioeconomic Study Area (Adams County, 2006; Bingham County, 2005; Blaine County, 1994; Bonneville County, 2004; Camas County, 2006; Caribou County, 2006; Cassia County, 2006; Clark County, 2010; Custer County, 2006; Elmore County, 2004; Fremont County, 2008; Gem County, 2010; Gooding County, 2010; Jefferson County, 2005; Jerome County, 2006; Lemhi County, 2007; Lincoln County, 2008; Madison County, 2008; Minidoka County, 2001; Owyhee County, 2010; Payette County, 2006; Power County, 2009; Twin Falls County, 2008; Washington County, 2010; Beaverhead County, 2009; Madison County, 2006). Of the counties with identified LUPs, all had some form of economic development component, such as promotion of specific industrial sectors and natural resource use.

Economic Conditions

Economic analysis is concerned with the production, distribution, and consumption of goods and services. This section provides a summary of economic information, including trends and current conditions. It also identifies and describes major economic sectors in the Socioeconomic Study Area that can be affected by management actions. Most likely affected would be those economic activities that rely or could rely on BLM-administered lands, such as recreation and livestock grazing.

Economic Sectors, Employment, and Personal Income

The distribution of employment and income by industry sector within the Socioeconomic Study Area is summarized in **Table 3-62**, Employment by Sector within the Socioeconomic Study Area, and **Table 3-63**, Labor Income by Sector within the Socioeconomic Study Area (2010 dollars), below. See **Appendix Q** for equivalent data by county.



Table 3-62
Employment by Sector within the Socioeconomic Study Area

Socioeconomic Study Area	Absolute			Percentage of Total		Percent Change 2001-2010
	2001	2010	Change 2001-2010	2001	2010	
Total Employment (number of jobs)	281,346	309,620	28,274	100.00%	100.00%	10.05%
Non-services related	72,614	67,772	-4,842	25.81%	21.89%	-6.67%
Farm	28,028	25,639	-2,389	9.96%	8.28%	-8.52%
Forestry, fishing, & related activities	2,613	2,938	325	0.93%	0.95%	12.44%
Mining (including oil and gas)	777	960	183	0.28%	0.31%	23.55%
Construction	19,432	18,913	-519	6.91%	6.11%	-2.67%
Manufacturing	21,764	19,322	-2,442	7.74%	6.24%	-11.22%
Services related	142,525	171,386	28,861	50.66%	55.35%	20.25%
Utilities	374	762	388	0.13%	0.25%	103.74%
Wholesale trade	11,080	11,115	35	3.94%	3.59%	0.32%
Retail trade	31,535	32,653	1,118	11.21%	10.55%	3.55%
Transportation and warehousing	5,787	9,361	3,574	2.06%	3.02%	61.76%
Information	2,973	3,761	788	1.06%	1.21%	26.51%
Finance and insurance	7,325	10,547	3,222	2.60%	3.41%	43.99%
Real estate and rental and leasing	7,906	12,986	5,080	2.81%	4.19%	64.25%
Professional and technical services ¹	16,507	19,380	2,873	5.87%	6.26%	17.40%
Management of companies and enterprises	480	361	-119	0.17%	0.12%	-24.79%
Administrative and waste services	10,062	9,350	-712	3.58%	3.02%	-7.08%
Educational services	1,273	1,792	519	0.45%	0.58%	40.77%
Health care and social assistance	14,042	19,239	5,197	4.99%	6.21%	37.01%
Arts, entertainment, and recreation	3,593	5,247	1,654	1.28%	1.69%	46.03%
Accommodation and food services	16,691	18,404	1,713	5.93%	5.94%	10.26%
Other services, except public administration	12,897	16,428	3,531	4.58%	5.31%	27.38%

Table 3-62
Employment by Sector within the Socioeconomic Study Area

Socioeconomic Study Area	Absolute			Percentage of Total		Percent Change 2001-2010
	2001	2010	Change 2001-2010	2001	2010	
Government	42,027	43,854	1,827	14.94%	14.16%	4.35%
Federal	10,984	10,670	-314	3.90%	3.45%	-2.86%
State	3,484	3,425	-59	1.24%	1.11%	-1.69%
Local	27,559	29,759	2,200	9.80%	8.6%	7.98%

Sources: US Department of Commerce 2012a

¹Professional and technical services activities require a high degree of expertise and training. Example activities include: legal advice and representation; accounting, bookkeeping, and payroll services; architectural, engineering, and specialized design services; computer services; consulting services; research services; advertising services; photographic services; translation and interpretation services; and veterinary services.

Table 3-63
Labor Income by Sector within the Socioeconomic Study Area (2010 dollars)

Socioeconomic Study Area	Absolute (Millions)			Percentage of Total ¹		Percent Change 2001-2010
	2001	2010	Change 2001-2010	2001	2010	
Total Labor Earnings²	10,272	\$11,793	\$1,521	100.00%	100.00%	14.81%
Non-services related	\$2,990	\$2,947	-\$43	29.11%	24.99%	-1.44%
Farm	\$1,081	\$1,215	\$134	10.52%	10.30%	12.40%
Forestry, fishing, & related activities	\$71	\$96	\$25	0.69%	0.81%	35.21%
Mining (including oil and gas)	\$33	\$38	\$5	0.32%	0.32%	15.15%
Construction	\$851	\$693	-\$158	8.28%	5.88%	-18.57%
Manufacturing	\$954	\$905	-\$49	9.29%	7.67%	-5.14%
Services related	\$4,612	\$5,712	\$1,100	44.90%	48.44%	23.85%
Utilities	\$24	\$70	\$46	0.23%	0.59%	191.67%
Wholesale trade	\$467	\$602	\$135	4.55%	5.10%	28.91%
Retail trade	\$809	\$806	-\$3	7.88%	6.83%	-0.37%
Transportation and warehousing	\$267	\$422	\$155	2.60%	3.58%	58.05%
Information	\$107	\$140	\$33	1.04%	1.19%	30.84%
Finance and insurance	\$224	\$290	\$66	2.18%	2.46%	29.46%
Real estate and rental and leasing	\$138	\$159	\$21	1.34%	1.35%	15.22%
Professional and technical services	\$1,070	\$1,293	\$223	10.42%	10.96%	20.84%
Management of companies and enterprises	\$34	\$17	-\$17	0.33%	0.14%	-50.00%



Table 3-63
Labor Income by Sector within the Socioeconomic Study Area (2010 dollars)

Socioeconomic Study Area	Absolute (Millions)			Percentage of Total ¹		Percent Change 2001-2010
	2001	2010	Change 2001-2010	2001	2010	
Administrative and waste services	\$178	\$202	\$24	1.73%	1.71%	13.48%
Educational services	\$22	\$28	\$6	0.21%	0.24%	27.27%
Health care and social assistance	\$557	\$827	\$270	5.42%	7.01%	48.47%
Arts, entertainment, and recreation	\$120	\$98	-\$22	1.17%	0.83%	-18.33%
Accommodation and food services	\$270	\$330	\$60	2.63%	2.80%	22.22%
Other services, except public administration	\$325	\$428	\$103	3.16%	3.63%	31.69%
Government	\$1,924	\$2,208	\$284	18.73%	18.72%	14.76%
Federal	\$684	\$841	\$157	6.66%	7.13%	22.95%
State	\$172	\$179	\$7	1.67%	1.52%	4.07%
Local	\$1,068	\$1,188	\$120	10.40%	10.07%	11.24%
Non-labor Income³	\$5,939	\$8,250	\$2,311	41.71%	47.14%	38.91%
Dividends, interest, and rent	\$2,719	\$3,325	\$606	19.10%	19.00%	22.29%
Personal current transfer receipts ⁴	\$2,112	\$3,516	\$1,404	14.83%	20.09%	66.48%
Contributions to government social insurance ⁵	\$1,108	\$1,409	\$301	7.78%	8.05%	27.17%
Total Personal Income⁶	\$14,239	\$17,501	\$3,262	100.00%	100.00%	22.91%

Sources: US Department of Commerce, 2012a. Values reported in 2001 dollars were converted to 2010 dollars using the Consumer Price Index (Bureau of Labor Statistics [BLS] 2012a).

¹Industry earnings are reported as a share of total labor earnings. Dividends, interest, and rent; personal current transfer receipts; and contributions to government social insurance are reported as a share of personal income.

²Total labor earnings are reported by place of work.

³Non-labor income includes dividends, interest, and rent and personal current transfer receipts.

⁴“Personal current transfer receipts” are benefits received by persons for which no current services are performed. They are payments by government and business to individuals and institutions, such as retirement and disability insurance benefits.

⁵“Contributions for government social insurance” consists of payments by employers, employees, the self-employed, and other individuals who participate in the following government programs: Old-age, Survivors, and Disability Insurance; Medicare; unemployment insurance; railroad retirement; pension benefit guarantee; veterans’ life insurance; publicly-administered workers’ compensation; military medical insurance; and temporary disability insurance (US Department of Commerce 2012b).

⁶Total personal income is reported by place of residence.

With respect to employment by industry sector, the services-related sector accounted for the largest share (55.4 percent) of total employment in the Socioeconomic Study Area in 2010. This reflects a growth rate of 20.3 percent from 2001 (compared to an overall employment growth rate for all sectors of 10.1 percent from 2001). Compared to the services related sector, the non-services related sector and the government sector represented lower levels of employment, 21.9 percent and 14.2 percent, respectively. At the industry level, retail trade (10.6 percent) accounted for the largest share of employment of all industries in the Socioeconomic Study Area in 2010, followed by local government (9.6 percent), professional and technical services (6.3 percent), and health care and social assistance (6.2 percent). Although mining contributed a relatively small share of total employment within the study area in 2010, a notable proportion of total employment within Caribou County (21 percent) and Custerlark County (32 percent) came from the mining industry, according to estimates from Headwaters Economics (2013). The industries that demonstrated the largest growth between 2001 and 2010 were utilities, with an increase of 103.7 percent; real estate rental and leasing, with an increase of 64.3 percent; and transportation and warehousing, with an increase of 61.8 percent. The industries with greatest decrease in employment levels from 2001 to 2010 were management of companies and enterprises (decrease of 24.8 percent), manufacturing (decrease of 11.2 percent), and farming (decrease of 8.5 percent).

Appendix Q provides county-level employment figures. The greatest difference in industry sector proportion between counties in 2010 was in the professional and technical services industry. Professional and technical services contributed a low 1.5 percent of total employment in Power County, Idaho, but a much larger percentage in Butte County, Idaho (83.8 percent). Other industries also showed large variation in shares of employment across counties, including the farm industry (from 1.5 percent in Blaine County, Idaho, to 25.6 percent in Gooding County, Idaho) and the manufacturing industry (from 0.6 percent in Butte County, Idaho, to 24.8 percent in Power County, Idaho). Other counties identified as having relatively high employment shares in the farming industry include Lincoln County, Idaho (22.5 percent); Oneida County, Idaho (22.6 percent); and Owyhee County, Idaho (25.3 percent). The federal government industry also showed a high level of variation in shares across counties (from 1 percent in Blaine County, Idaho, to 35.5 percent in Elmore County, Idaho). However, in 24 of the 29 counties included in the Socioeconomic Study Area, the federal government contributed less than 5 percent of employment. Recreation-related economic activity, including the arts, entertainment, and recreation; retail trade; and accommodation and food services industries, varied across the counties (by 8.4 percentage points, 12.7 percentage points, and 16.7 percentage points, respectively). Note that these sectors are influenced not only by recreation but also by many other industries. See **Appendix Q** for individual county detail.

With respect to labor earnings, the services-related sector accounted for the largest share (48.4 percent) of labor earnings in the Socioeconomic Study Area in 2010, followed by the non-services related sector (25.0 percent) and the government sector (18.7 percent). In 2010, the individual industries that generated the largest shares of labor earnings included the professional and technical services industry (11.0 percent), farming (10.3 percent) and the local government industry (10.1 percent). Labor earnings associated with utilities almost



tripled during the 2001-2010 period. Other sectors showing strong trends of growth since 2001 include transportation and warehousing (58.1 percent) and health care and social assistance (48.5 percent). During the same time period, management of companies and enterprises, construction and recreation experienced the largest decline in earnings of all the industry sectors (declines of 50.0 percent, 18.6 percent and 18.3 percent, respectively).

Appendix Q provides county-level labor earnings figures. The county-by-county patterns are similar to those for employment, with relatively more variation in income from professional and technical services than from other industries; professional and technical services contribute the most to earnings in Butte County, Idaho at 93.5 percent. At the other end of the range, professional and technical services accounts for only 1.2 percent of earnings in Elmore County, Idaho and only 1.3 percent in Power County, Idaho. Of the counties for which data are provided (20 of 29), only two earn more than 10 percent of income from the professional and technical services industry. Farm income varied from a low share of -2.1 percent of total earnings in Adams County, Idaho to highs of 47.3 percent in Gooding County, Idaho, followed by 46.9 percent in Owyhee County, Idaho. Manufacturing income varied in proportion across the counties, from 0.2 percent of earnings in Butte County, Idaho to 32.9 percent in Power County, Idaho. Earnings from the mining sector are left undisclosed in 15 of the 29 counties included in the Socioeconomic Study Area due to confidentiality requirements. Furthermore, mining sector earnings figures are not provided for nine of the 29 counties because the earnings amounted to less than \$50,000 in those counties. For the counties for which data are available, earnings from mining range from 0.1 percent in Twin Falls County, Idaho to a share of 12.7 percent of total earnings in Caribou County, Idaho. Accommodation and food services contributes 0.1 percent of total earnings in Butte County, Idaho and up to 16.6 percent in Madison County, Montana. The other recreation and travel-related industries (i.e., retail trade and arts, entertainment, and recreation) contribute between 0.1 percent (arts, entertainment, and recreation in Elmore County, Idaho) and 16.2 percent (retail trade in Adams County, Idaho).

In addition to industry shares of labor earnings, another metric – residence adjustment – provides information about the economic conditions in the Socioeconomic Study Area. Residence adjustment represents the net inflow of the earnings of inter-area commuters. A positive number indicates that, on balance, area residents commute outside to find jobs; a negative number indicates that, on balance, people from outside the area commute in to find jobs. Jefferson County, Idaho's residence adjustment represented 27.8 percent of its total personal income, the highest share of all counties in the Socioeconomic Study Area. Gem County, Idaho had the second highest share (25.8 percent). Residence adjustment accounted for the most lowest share of total personal income in Butte County, Idaho (-701.3 percent), followed by Caribou County, Idaho (-22.1 percent). See **Appendix Q** for individual county detail.

Appendix Q provides employment and earnings data for Ada, Bannock, Boise, and Canyon Counties in Idaho, and Gallatin and Silver Bow Counties in Montana, which constitute a secondary study area as discussed in the introduction. In 2010, overall employment in the six-county secondary study area (472,046) was greater than overall employment levels in the 29-county primary socioeconomic study area (309,753). Earnings (by place of work) in the

six-county secondary study area were \$19,896, considerably larger than earnings in the primary socioeconomic study area (\$11,793). The impact analysis in the next chapter will document potential effects on the economy in the secondary study area, as well as for the 29 counties within the primary socioeconomic study area.

Table 3-64, Annual Unemployment, 2007 – 2011, presents the unemployment rates for each county in the Socioeconomic Study Area, as well as the rates for the counties aggregated and the States of Idaho and Montana. The data show that unemployment in the Socioeconomic Study Area matches or approximates that of the state for each of the years listed. At the county level, in 2011, the unemployment rates in the Socioeconomic Study Area ranged from a low of 5.0 percent in Owyhee County to a high of 17.3 percent in Adams County.

Table 3-64
Annual Unemployment, 2007 – 2011

Geographic Area	2007	2008	2009	2010	2011
Adams County, Idaho	5.5%	10.0%	14.0%	16.5%	17.3%
Bear Lake County, Idaho	2.3%	3.1%	5.0%	6.2%	5.5%
Bingham County, Idaho	2.6%	3.7%	5.5%	7.0%	7.3%
Blaine County, Idaho	2.3%	3.6%	7.1%	8.9%	8.8%
Bonneville County, Idaho	2.1%	3.3%	5.4%	6.6%	7.1%
Butte County, Idaho	2.4%	4.1%	4.8%	6.2%	7.1%
Camas County, Idaho	2.4%	4.3%	8.9%	11.2%	11.3%
Caribou County, Idaho	2.8%	3.4%	5.6%	7.6%	7.6%
Cassia County, Idaho	3.1%	3.7%	5.0%	6.8%	6.8%
Clark County, Idaho	2.2%	3.2%	5.1%	8.4%	8.4%
Custer County, Idaho	3.3%	4.3%	5.2%	7.1%	7.3%
Elmore County, Idaho	3.8%	5.3%	7.2%	8.5%	9.0%
Fremont County, Idaho	3.2%	4.7%	7.5%	9.2%	8.2%
Gem County, Idaho	3.7%	6.7%	9.9%	11.1%	11.4%
Gooding County, Idaho	2.1%	3.2%	5.3%	6.9%	6.6%
Jefferson County, Idaho	2.4%	3.6%	5.9%	7.3%	7.2%
Jerome County, Idaho	2.8%	4.0%	6.0%	8.1%	7.8%
Lemhi County, Idaho	4.4%	6.4%	7.6%	9.9%	10.9%
Lincoln County, Idaho	3.3%	5.3%	10.2%	13.0%	12.4%
Madison County, Idaho	2.1%	3.3%	5.1%	5.8%	6.2%
Minidoka County, Idaho	3.8%	4.3%	5.7%	7.5%	7.3%
Oneida County, Idaho	1.7%	3.3%	5.3%	5.0%	5.1%
Owyhee County, Idaho	1.9%	2.9%	3.7%	4.8%	5.0%
Payette County, Idaho	4.1%	5.6%	8.4%	9.2%	9.6%
Power County, Idaho	3.9%	5.0%	6.9%	9.3%	9.2%
Twin Falls County, Idaho	2.7%	3.8%	5.9%	8.1%	8.0%
Washington County, Idaho	4.1%	5.4%	8.4%	10.0%	10.1%
Beaverhead County, Montana	2.7%	3.6%	4.4%	5.4%	5.7%
Madison County, Montana	2.8%	3.7%	5.6%	7.0%	6.9%
Socioeconomic Study Area	2.7%	4.0%	6.1%	7.6%	7.7%



Table 3-64
Annual Unemployment, 2007 – 2011

Geographic Area	2007	2008	2009	2010	2011
Idaho	3.0%	4.7%	7.4%	8.8%	8.7%
Montana	3.4%	4.5%	6.1%	6.9%	6.8%

Source: BLS 2012b

Recreation

An estimated 15.3 percent of the employment in the primary study area is related to travel and tourism (Headwaters Economics 2012). This estimate is based on data from the US Census Bureau County Business Patterns and includes industrial sectors that, at least in part, provide goods and services to visitors, the local economy, and the local population. This estimate includes both full- and part-time jobs. Most of these jobs are concentrated in the “accommodation and food services” and “retail trade” sectors. Jobs related to travel and tourism are more likely to be seasonal or part-time and are more likely to have lower average annual earnings than jobs in non-travel and tourism-related sectors. The average annual wage per travel or tourism related job is roughly half that of jobs not related to travel and tourism. In 2010 dollars, the average annual wage was \$14,820 in 2011 compared to \$31,315 for jobs not related to travel and tourism (Headwaters Economics 2013).

Although much of the recreation use on BLM-administered lands is dispersed and far from counting devices (e.g., trail registers, fee stations, and vehicle traffic counters), approximations of the number of visitors to BLM-administered lands can be obtained from the BLM Recreation Management Information Service database, in which BLM recreation specialists provide estimated total visits and visitor days to various sites within their field office boundaries. **Table 3-65**, Estimated Annual Visits by Planning Unit, summarizes BLM visitation data in each field office area for fiscal year (FY) 2011 (i.e., the year ending September 30, 2011), and Forest Service visitation data from Round 2 of the National Visitor Use Monitoring program.

Visitor expenditures can be approximated by using the BLM Recreation Management Information Service database and Forest Service National Visitor Use Monitoring program visitation data in conjunction with data from Forest Service, which has constructed recreation visitor spending profiles based on years of survey data gathered through the Forest Service National Visitor Use Monitoring program. Although the data are collected from National Forest visitors, the analysis that follows is based on the National Visitor Use Monitoring program profiles because the BLM has no analogous database. The profiles break down recreation spending by type of activity, day use versus overnight use, local versus non-local visitors, and “non-primary” visits (i.e., incidental visits where the primary purpose of the trip was other than visiting BLM-administered lands). **Table 3-66**, Visitor Spending from Recreation on BLM- and Forest Service-Administered Land in Socioeconomic Study Area, FY 2011, summarizes individual and party visits and expenditures by trip type and estimated direct expenditure.

Table 3-65
Estimated Annual Visits by Planning Unit

Field Office or National Forest	Total Individual Visits, FY 2011	Local Individual Visits¹	Non-local Individual Visits¹	Non Primary² Individual Visits¹
Bruneau Field Office, Idaho	24,740	13,360	8,164	3,216
Burley Field Office, Idaho	642,867	347,148	212,146	83,573
Challis Field Office, Idaho	217,505	117,453	71,777	28,276
Four Rivers Field Office, Idaho	235,643	127,247	77,762	30,634
Jarbridge Field Office, Idaho	39,980	21,589	13,193	5,197
Owyhee Field Office, Idaho	288,968	156,043	95,359	37,566
Pocatello Field Office, Idaho	292,275	157,829	96,451	37,996
Salmon Field Office, Idaho	269,976	145,787	89,092	35,097
Shoshone Field Office, Idaho	926,637	500,384	305,790	120,463
Upper Snake Field Office, Idaho	1,174,536	634,249	387,597	152,690
Dillon Field Office, Montana	1,431,825	773,186	472,502	186,137
Beaverhead-Deerlodge National Forest	907,830	490,228	299,584	118,018
Boise National Forest	1,509,436	815,095	498,114	196,227
Caribou-Targhee National Forest ³	1,291,105	697,197	426,065	167,844
Salmon-Challis National Forest	236,435	127,675	78,024	30,737
Sawtooth National Forest	1,086,883	586,917	358,671	141,295
Total	10,576,641	5,711,387	3,490,291	1,374,966

Source: BLM 2012c; Forest Service 2012b

¹Based on national averages for all National Forests. White and Goodding (2012).

²Non primary means incidental visits where the primary purpose of the trip was other than visiting the National Forest being surveyed.

³Includes Curlew National Grassland

Table 3-66
Visitor Spending from Recreation on BLM- and Forest Service-Administered Land in Socioeconomic Study Area, FY 2011

Trip Type	Percent of Visits	Estimated Number of Individual Visits	Average Party Size	Estimated Number of Party Visits	Party Spending Per Visit (2010 \$)	Estimated Direct Expenditure (Millions \$)
Non-local Day Trips	10	1,057,664	2.5	423,066	\$63.68	\$26.94
Non-local Overnight on Public Lands	9	951,898	2.6	366,115	\$237.27	\$86.87
Non-local Overnight off Public Lands	14	1,480,730	2.6	569,511	\$522.63	\$297.64
Local Day Trips	49	5,182,554	2.1	2,467,883	\$33.56	\$82.82
Local Overnight on Public Lands	4	423,066	2.6	162,718	\$165.14	\$26.87



Table 3-66
Visitor Spending from Recreation on BLM- and Forest Service-Administered Land in
Socioeconomic Study Area, FY 2011

Trip Type	Percent of Visits	Estimated Number of Individual Visits	Average Party Size	Estimated Number of Party Visits	Party Spending Per Visit (2010 \$)	Estimated Direct Expenditure (Millions \$)
Local Overnight off Public Lands	1	105,767	2.4	44,070	\$216.48	\$9.54
Non Primary Visits	13	1,374,964	2.5	549,985	\$376.62	\$207.14
Total	100	10,576,641	-	4,583,347	-	\$737.82

Source: White and Goodding 2012; Forest Service 2012b; BLS 2012a

NA Not Applicable

As **Table 3-66** shows, the estimated total visitor spending on BLM- and Forest Service-administered lands in the Socioeconomic Study Area was about \$737.82 million in FY 2011. It is important to note that this includes expenditures from local residents and from visitors whose use of BLM-administered lands was incidental to some other primary purpose.

Grazing

Farming employed approximately 25,639 people in the Socioeconomic Study Area in 2010, accounting for 8.2 percent of total employment. The average annual wage for a farm job in the Study Area was \$27,565 in 2011 (in \$2010 dollars). This was lower than the average annual wage for a non-farm job (\$28,603) (Headwaters Economics 2013).¹²

Table 3-67, Farm Earnings Detail, 2010 (2010 dollars), presents the proportion of personal income originating from farm earnings and the farm cash receipts from livestock received throughout the Socioeconomic Study Area and Idaho and Montana as a whole. As shown in **Table 3-67**, agricultural services are an important contribution in several counties; however, in some counties the data are not released for confidentiality reasons.

Table 3-67 shows the relative contribution of farm earnings across the counties in the Socioeconomic Study Area. Farm earnings constitute the largest share of total earnings in Camas, Cassia, Clark, Gooding, Jefferson, Jerome, Lincoln, Minidoka, Oneida, Owyhee and Twin Falls Counties. Both livestock and crops provide substantial cash receipts, with some variations across the counties. Though approximately 62.5 percent of farm cash receipts in the Socioeconomic Study Area come from livestock, many counties have significant percentages of farm cash receipts from crops, including Camas, Caribou, Clark, Gem, Madison, Minidoka, Oneida, and Power Counties.

¹² All dollar values were converted to 2010 dollars using the Consumer Price Index (BLS, 2012a).

Table 3-67
Farm Earnings Detail, 2010 (2010 dollars)

Geographic Area	Farm Earnings as Share of All Earnings	Agriculture and Forestry Support Activities Earnings as Share of All Earnings¹	Farm Cash Receipts (Millions)	Share of Farm Cash Receipts from Livestock	Share of Farm Cash Receipts from Crops
Adams County, Idaho	-2.1%	(D)	\$11.5	80.8%	19.2%
Bear Lake County, Idaho	7.8%	(D)	\$21.9	74.7%	25.3%
Bingham County, Idaho	5.3%	2.7%	\$310.0	33.5%	66.5%
Blaine County, Idaho	1.4%	(D)	\$34.3	39.9%	60.1%
Bonneville County, Idaho	1.7%	(D)	\$177.8	51.3%	48.7%
Butte County, Idaho	1.3%	(D)	\$41.6	23.2%	76.8%
Camas County, Idaho	29.5%	(D)	\$20.0	9.9%	90.1%
Caribou County, Idaho	5.6%	(D)	\$51.6	43.2%	56.8%
Cassia County, Idaho	28.2%	2.2%	\$688.7	72.1%	27.9%
Clark County, Idaho	31.6%	(D)	\$38.0	22.0%	78.0%
Custer County, Idaho	9.5%	(D)	\$22.6	65.6%	34.4%
Elmore County, Idaho	6.6%	0.3%	\$349.3	66.7%	33.3%
Fremont County, Idaho	-1.1%	(D)	\$59.8	19.5%	80.5%
Gem County, Idaho	6.3%	(D)	\$37.7	53.1%	46.9%
Gooding County, Idaho	47.3%	2.5%	\$664.4	90.0%	10.0%
Jefferson County, Idaho	19.9%	(D)	\$247.0	48.3%	51.7%
Jerome County, Idaho	28.0%	3.5%	\$516.0	75.9%	24.1%
Lemhi County, Idaho	2.6%	(D)	\$25.4	88.5%	11.5%
Lincoln County, Idaho	46.0%	(D)	\$147.2	76.2%	23.8%
Madison County, Idaho	-1.1	1.0%	\$63.5	10.5%	89.5%
Minidoka County, Idaho	24.1%	(D)	\$290.2	28.5%	71.5%
Oneida County, Idaho	27.8%	(D)	\$35.9	30.5%	69.5%
Owyhee County, Idaho	46.9%	(D)	\$263.8	63.5%	36.5%
Payette County, Idaho	8.4%	(D)	\$165.1	77.6%	22.4%

Table 3-67
Farm Earnings Detail, 2010 (2010 dollars)

Geographic Area	Farm Earnings as Share of All Earnings	Agriculture and Forestry Support Activities Earnings as Share of All Earnings ¹	Farm Cash Receipts (Millions)	Share of Farm Cash Receipts from Livestock	Share of Farm Cash Receipts from Crops
Power County, Idaho	9.7%	2.6%	\$122.2	29.2%	70.8%
Twin Falls County, Idaho	10.9%	(D)	\$531.5	66.6%	33.4%
Washington County, Idaho	7.2%	3.5%	\$49.7	54.6%	45.4%
Beaverhead County, Montana	5.3%	1.1%	\$81.4	67.3%	32.7%
Madison County, Montana	1.9%	1.1%	\$64.7	64.0%	36.0%
Socioeconomic Study Area	10.3%	0.7%	\$5,132.8	62.5%	37.6%
Idaho	4.5%	0.7%	\$6,128.8	59.2%	40.8%
Montana	2.5%	0.4%	3,162.6	43.8%	56.2%

Sources: Headwaters Economics 2012; US Department of Commerce 2012a. Values reported in 2001 dollars were converted to 2010 dollars using the Consumer Price Index (BLS 2012a).

¹This division is the finest resolution of data provided by the US Department of Commerce's Bureau of Economic Analysis that includes agricultural services.

²(D) indicates that the value is not shown to avoid disclosure of confidential information.

Table 3-68, Active and Billed Animal Unit Months, provides information on active and billed AUMs on BLM-administered and Forest Service-administered land, for each of the BLM field offices and National Forest areas. The estimated gross receipts in the table are calculated from data from the USDA Economic Research Service (ERS), which publishes annual budgets for cow-calf operations for different production regions across the country (USDA ERS 2012). The BLM calculated a ten-year inflation-adjusted average gross receipt per cow-calf operation from the ERS budgets, then converted that information to a per-AUM figure based on average forage requirements for a cow including other livestock (e.g., bulls and replacement heifers) that are needed to support the production from the cow (Workman 1986). Southwest Montana falls into the Basin and Range region, whereas southern Idaho is in the ERS's Fruitful Rim region. The BLM's calculations resulted in a ten-year average gross receipt in the Basin and Range region of \$50.24 per AUM (2010 dollars), and in the Fruitful Rim region of \$30.29 per AUM (2010 dollars). However, the BLM used the higher value for both regions, both to err on the side of conservative analysis and because the characteristics of livestock grazing in southern Idaho seem more like those in southwestern Montana (and across southeast Oregon, Nevada, and Utah, which are also in ERS's Basin and Range region) than like those in the remainder of the Fruitful Rim (e.g., much of the California coast, western Oregon, and Washington State).

Table 3-68
Active and Billed Animal Unit Months

Geographic Area	Active (2011)	% Billed (2011)	Billed (2011)	Cattle (%)	Sheep (%)	Other (%)	Allot ments	Acres per AUM	Gross Receipts (millions)
Beaverhead-Deerlodge National Forest	207,637	79%	163,655	96%	4%	1%	224	11.25	\$10.4
Birds of Prey National Conservation Area	47,807	71%	33,773	88%	12%	0%	23	12.3	\$2.4
Boise National Forest	48,275	86%	41,517	82%	18%	1%	54	25.78	\$2.4
Bruneau Field Office	128,394	73%	93,760	99%	0%	1%	37	10.9	\$6.5
Burley Field Office	141,091	73%	102,925	92%	8%	0%	201	6.1	\$7.1
Caribou-Targhee National Forest (includes Curlew National Grassland)	308,711	72%	221,910	73%	26%	0%	254	7.21	\$15.5
Challis Field Office	55,107	61%	33,605	98%	0%	2%	63	13.4	\$2.8
Craters of the Moon National Monument	14,956	28%	4,120	93%	7%	0%	4	7.1	\$0.8
Dillon Field Office	105,669	75%	78,933	97%	0%	3%	394	8.0	\$5.3
Four Rivers Field Office	105,328	79%	83,092	93%	7%	0%	305	7.1	\$5.3
Jarbridge Field Office	182,212	81%	148,129	97%	2%	0%	92	9.0	\$9.2
Owyhee Field Office	121,975	92%	112,404	98%	2%	1%	145	10.2	\$6.1
Pocatello Field Office	86,492	86%	74,599	90%	10%	1%	328	6.6	\$4.3
Salmon Field Office	62,680	80%	50,096	99%	0%	1%	83	7.9	\$3.1
Salmon-Challis National Forest	142,213	67%	95,976	97%	2%	1%	106	15.36	\$7.1
Sawtooth National Forest	172,070	77%	131,789	77%	22%	0%	128	9.36	\$8.6
Shoshone Field Office	187,217	59%	110,342	84%	15%	0%	197	7.7	\$9.4
Upper Snake River Field Office	210,842	70%	148,638	80%	20%	0%	309	7.5	\$10.6
Total	2,328,676								\$117.0

Sources: BLM 2012d; Forest Service 2012a, 2012c; Workman 1986; USDA ERS 2012

Thus, the table above reflects a gross receipt value of \$50.24 per AUM, and the last column of the table represents annual gross receipts in the region from livestock operations in 2010 dollars.

Gross receipts are calculated based on active AUMs and ten-year average gross receipts, as described in the text.

The data in the table help to demonstrate the importance of livestock grazing throughout the Socioeconomic Study Area. It is important to remember, as well, that the data are only for forage values on BLM-administered and Forest Service-administered lands; forage on other



public and private lands contribute additional values to the Socioeconomic Study Area. The economic analysis of the alternatives, presented in Chapter 4, addresses additional indirect contributions of livestock grazing (as well as other resource uses) to the regional economy, comparing the alternatives to one another.

Forestry and Wood Products

Approximately 1,570 jobs (1 percent of total employment in 2011) in the Socioeconomic Study Area came from timber-related industries, which is 0.3 percentage points higher than the national average of 0.7 percent (Headwaters Economics 2013). This estimate is based on data from the US Census Bureau County Business Patterns. The proportion of employment associated with timber-related industries varied by county, with a low of zero percent in Butte, Camas, Clark, Jerome, Lincoln, and Minidoka Counties and highs of 25.3 percent in Adams County, 8.8 percent in Washington County, 6.8 percent in Owyhee County, and 6.5 percent in Payette County. These estimates include both full- and part-time jobs and reflect three timber-related industries: growing and harvesting, sawmills and paper mills, and wood products manufacturing.

Average annual earnings for timber-related jobs tend to be higher than for non-timber jobs. The average annual wage per timber-related job in the Socioeconomic Study Area in 2011 was \$35,521 (2010 dollars), compared to \$29,971 for non-timber jobs.¹³

Mining and Minerals

The data in **Table 3-69**, Mining Sector Employment by County, show that within the 29 counties included in the Socioeconomic Study Area, mining industries employed 1,248 people in 2010, accounting for approximately 0.4 percent of total employment, which is 0.3 percentage points higher than the national average (Headwaters Economics 2012). Mining industries include those for phosphate, metals, building stone quarrying, sand and gravel quarrying, geothermal exploration and development, oil and gas exploration, and mining-related businesses. The proportion of employment associated with mining industries varied by county, from zero percent in 12 of the counties up to 30.4 percent of total employment in Custer County and 22.7 percent of total employment in Caribou County. The average annual earnings per mining-related job in the Socioeconomic Study Area are higher than non-mining jobs. The average annual wage per job in this sector was \$56,239 (2010 dollars) in the Socioeconomic Study Area in 2011, compared to an average of \$33,926 for private sector jobs (Headwaters Economics, 2013). States receive 50 percent of all rents and royalties collected from mineral extraction on public lands. In FY2012, \$10 million was collected in Idaho (the state received \$5 million).

Phosphate mining in Caribou County for BLM-administered phosphate raw ore produced 4.2 million units for a sales total of \$167.4 million in 2011 (ONRR 2012). There are currently three companies operating mines and processing plants who employ over 1,800 people, in mines or plants (BLM 2013). Although some of the richest silver-producing regions in the

¹³ All dollar values were converted to 2010 dollars using the Consumer Price Index (BLS 2012a).

Table 3-69
Mining Sector Employment by County

Geographic Area	Number of Jobs	Percentage of Total Employment
Adams County, Idaho	0	0.0%
Bear Lake County, Idaho	0	0.0%
Bingham County, Idaho	0	0.0%
Blaine County, Idaho	13	0.1%
Bonneville County, Idaho	10	0.0%
Butte County, Idaho	0	0.0%
Camas County, Idaho	0	0.0%
Caribou County, Idaho	643	22.7%
Cassia County, Idaho	44	0.7%
Clark County, Idaho	0	0.0%
Custer County, Idaho	289	30.4%
Elmore County, Idaho	5	0.1%
Fremont County, Idaho	3	0.2%
Gem County, Idaho	13	0.6%
Gooding County, Idaho	2	0.1%
Jefferson County, Idaho	2	0.1%
Jerome County, Idaho	0	0.0%
Lemhi County, Idaho	15	0.9%
Lincoln County, Idaho	0	0.0%
Madison County, Idaho	0	0.0%
Minidoka County, Idaho	0	0.0%
Oneida County, Idaho	13	2.3%
Owyhee County, Idaho	6	0.4%
Payette County, Idaho	7	0.2%
Power County, Idaho	13	0.6%
Twin Falls County, Idaho	31	0.1%
Washington County, Idaho	0	0.0%
Beaverhead County, Montana	66	2.8%
Madison County, Montana	73	5.3%
Socioeconomic Study Area	1,248	0.4%
Idaho	2,444	0.5%
Montana	5,962	1.8%
US	581,582	0.5%

Source: Headwaters Economics 2012.

All dollar values were converted to 2010 dollars using the Consumer Price Index (BLS 2012a).

US are in the northern Idaho panhandle (outside the Socioeconomic Study Area), the study area does produce some silver, along with industrial minerals such as molybdenum (Idaho Mining Association 2010). Idaho has several large stone quarries that support the rural communities of Oakley (Cassia County) and Challis (Custer County). It is estimated that



approximately 40,000 tons of Oakley Stone are mined annually from unpatented mining claims in southern Idaho/northern Utah (not including patented claims). Approximately 60 people are employed full-time from these operations, and an additional 100 to 200 skilled laborers are employed during the summer months (BLM 2013d).

Other Values

BLM-administered lands provide a range of goods and services that benefit society in a variety of ways. Some of these goods and services, such as timber and minerals, are bought and sold in markets, and hence have a readily observed economic value (as documented in the sections above); others have a less clear connection to market activity, even though society derives benefits from them. In some cases, goods and services have both a market and a non-market component value to society. This section provides an overview of several non-market values described through a qualitative and quantitative economic valuation analysis.

The non-market values associated with BLM-administered lands can be classified as values that derive from direct or indirect use (e.g., recreation) and those that do not derive from use, such as existence values held by the general public from self-sustaining populations of GRSG. This section and the related appendix describe the use and nonuse economic values associated with recreation, populations of GRSG, and land that is currently used for livestock grazing and ranch operations. The sections that follow discuss each of these values in turn. **Appendix R** provides more discussion of the concepts and measurement of use and nonuse nonmarket values. It is important to note that these nonmarket values are not directly comparable to previous sections that describe output (sales or expenditures) and jobs associated with various resource uses on BLM-administered and Forest Service-administered lands (see **Appendix R** for more information).

Values Associated with Recreation

Actions that promote the conservation of GRSG habitat may result in changes in recreation activity, by changing opportunities or access for different recreational activities. Opportunities for some activities such as wildlife viewing may increase as the amount of habitat may increase for species that depend on BLM-administered lands, including GRSG. The Environmental Consequences analysis (**Chapter 4**) addresses this issue for each of the management alternatives. This section documents baseline nonmarket values visitor receive associated with recreation activities. This is measured by what economists call consumer surplus, which refers to the additional value that visitors receive over and above the price they pay. **Appendix S** provides an explanation of consumer surplus. Fees to use BLM-administered lands for recreation are typically very low or nonexistent, so the value people place on BLM-administered land recreation opportunities is not fully measured simply by the entrance fees people pay.

Economists estimate the consumer surplus from recreation by measuring how the variation in visitors' travel costs corresponds to the number of visits taken. This "travel cost method" has been developed extensively in academic literature and is used by federal agencies in economic analyses; the method is explained more fully in **Appendix R**. Conducting original travel cost method studies can be time-consuming and expensive. For this project, the BLM

and Forest Service relied on estimates of consumer surplus from prior recreation studies in the same geographic region, using an established scientific method called “benefit transfer.” Based on the studies reviewed and cited in **Appendix R**, visitors to natural areas, such as BLM-administered and Forest Service-administered lands, gain values (in excess of their direct trip cost) ranging from approximately \$32 per day for camping, to about \$175 per day for mountain biking.

To calculate the aggregate “consumer surplus” value of recreation in the study area, BLM multiplied this per-day value of recreation by the estimated number of visitor days associated with each activity type. Visitation estimates by activity are derived based on the BLM Recreation Management Information Service database and the Forest Service National Visitor Use Monitoring program for the study area.

Accounting for the value per day and the number of days, the total nonmarket value of recreation on BLM- and Forest Service-administered lands in the study area was estimated to be about \$431.8 million per year (see **Appendix S** for details). Based on the quantity of recreational trips and the economic value of each type of activity, the largest annual nonmarket values are associated with hunting, camping, fishing, hiking, sightseeing, floatboating/rafting/canoeing, and pleasure driving. These categories omit downhill skiing, because there is little or no overlap between GRSG habitat and lands used for downhill skiing. The Environmental Consequences section (**Chapter 4**) discusses how recreational visits and total nonmarket value for recreation may change under the alternatives being considered.

Values Associated with Populations of GRSG

The existence and perseverance of the Endangered Species Act and similar acts reflects the values held by the American public associated with preventing species from going extinct. Economists have long recognized that rare, threatened and endangered species have economic values beyond those associated with active “use” through viewing. This is supported by legal decisions and technical analysis (see **Appendix R** for details), as well as a number of conceptual and empirical publications that refine concepts and develop methods to measure these nonuse or existence values.

The dominant method uses surveys to construct or simulate a market or referendum for protection of areas of habitat, or changes in populations of species. The survey asks the respondent to indicate whether they would pay for an increment of protection, and if so how much they would pay. Economists have developed increasingly sophisticated survey methods for nonuse value over the last two decades to improve the accuracy of this method. **Appendix R** offers an in-depth discussion of this method of value estimation.

Original surveys to estimate nonuse values are complex and time-consuming; rather than perform a new survey, the BLM and Forest Service reviewed existing literature to determine if there were existing nonuse value studies for GRSG. No existing studies on valuation specific to the GRSG were found. However, there are several studies published in peer-reviewed scientific journals for bird species that the BLM judged to have similar characteristics with GRSG, including being a candidate for listing as threatened or



endangered and being a hunted species. These studies find average stated willingness to pay of between \$15 and \$58 per household per year in order to restore a self-sustaining population or prevent regional extinction (see **Appendix S** for details). These values represent a mix of use and nonuse values, but the nonuse components of value are likely to be the majority share, since the studies primarily address species that are not hunted. Since GRSG protection is a public good available to all households throughout the intermountain west, if similar per-household values apply to the species the aggregate regional existence value could be substantial.

Values Associated with Grazing Land

BLM-administered land managed for livestock grazing provides both market values (e.g., forage for livestock) and nonmarket values, including open space and western ranch scenery, which provide value to some residents and outside visitors, and may also provide some value to the nonusing public (e.g., the cultural icon of the American cowboy). Many people who ranch for a living or who otherwise choose to live on ranches value the ranching lifestyle in excess of the income generated by the ranching operations. This could be seen as a nonmarket value associated with livestock grazing. On the other hand, some residents and visitors perceive nonmarket opportunity costs associated with livestock grazing. Although some scholars and policy makers have discussed nonmarket values associated with livestock grazing, the process for incorporating these values into analyses of net public benefits remains uncertain, and the BLM and Forest Service did not attempt to quantify these values for the present study.

Furthermore, some of the lifestyle value of ranching is likely to be captured in markets, such as through the property values of ranches adjacent to BLM-administered lands with historic leases or permits for grazing on BLM-administered land. Economists typically use a method called the hedonic price method to estimate values associated with particular amenities; this method may be used to explain the factors that influence the observed sale prices of ranch land. **Appendix R** provides more information about this method, as well as additional information to address potential nonmarket values associated with grazing.

Fiscal

Most of Idaho's tax revenue comes from three sources: income, sales and use, and property taxes (US Census Bureau 2010d). The Idaho State Tax Commission collects income tax and sales and use tax, while property taxes fund local governments and are imposed and collected by the county where the property is located. Idaho imposes a sales and use tax of 6 percent, a corporate net income tax of 7.6 percent, and an individual income tax rate that ranges from 1.6 percent to 7.8 percent. States receive 50 percent of rents and royalties collected from federal mineral leases. In 2012, \$4.6 million was disbursed to the State and individual counties, primarily from phosphate royalties, but also from geothermal rent (BLM 2013f). In addition, Idaho imposes a severance tax rate of 2 percent of the market value of oil and gas produced or sold in the state. It also imposes a mine license tax of 1 percent of the value of ores mined or extracted, which accounted for approximately \$2.5 million in tax revenue in 2011 (Idaho State Tax Commission 2011).

Idaho's counties receive most of their revenue from property taxes, charges for local services and redistribution of State and Federal sources. In 2009-2010, Idaho counties received approximately 25 percent of their revenues from property taxes, 25 percent from charges, and 40 percent from state government intergovernmental transfers (US Census Bureau 2010e). Major sources of state funds received by counties include state liquor revenues, highway user taxes and fees, sales taxes and education funds and endowments (Idaho Association of Counties 2011). Public elementary and secondary schools received, in 2008-2009, approximately 67 percent of their resources from state sources, 10 percent from federal funds, and 23 percent from local funds, mostly property taxes (National Center for Education Statistics 2012).

The largest source of revenue in Montana is the individual income tax. The second largest source is severance and other taxes (US Census Bureau 2010d), although most of the mineral production in Montana is outside the Socioeconomic Study Area for this sub-region. Two-thirds of the severance and other taxes category is made up of an oil and gas production tax, with the remainder of the category being composed of mining taxes and other miscellaneous taxes. While it is collected at the state level, about half of the oil and gas tax is distributed to local governments and school districts. Montana does not have a general sales tax, but selective sales taxes account for about 14 percent of state tax revenue (Montana Department of Revenue 2010).

In Montana, local government and school district tax collections come almost entirely from property taxes. Local jurisdictions also collect a coal gross proceeds tax, a local severance tax that imposes a flat tax on the value of production so that all mines pay the same rate (Montana Department of Revenue 2010).

The primary government revenues that are directly linked to BLM- and Forest Service-administered lands are Payments in Lieu of Taxes, which are federal government payments based on the presence of all federal lands (not just BLM-administered lands) within each county. **Table 3-70**, Payments in Lieu of Taxes (PILT) Received in the Socioeconomic Study Area by County in 2010, shows the payments each county received in 2010. The nontaxable status of federal lands is of interest to local governments, which must provide public safety and other services to county residents. BLM revenue-sharing programs provide resources to local governments in lieu of property taxes because local governments cannot tax federally owned lands the way they would if the land were privately owned.

Other federal payments to states, counties, and public schools associated to the presence of federal lands include Forest Service revenue transfers and federal mineral royalties. Since 2008, the Forest Service pays 25 percent of its receipts to states for use on roads and schools in the counties where national forests are located. The decline in the sale of timber from Federal lands over time has led to the decline in these payments. However, Secure Rural Schools and Community Self-Determination Act of 2000 has attempted to limit this decline (Congressional Research Service 2012). Idaho and Montana also receive federal mineral royalties from mining activities on federal land. In Idaho, 90 percent of these receipts are distributed to the Public School Income Fund and the other 10 percent are distributed to the



Table 3-70
Payments in Lieu of Taxes (PILT) Received in
the Socioeconomic Study Area by County in 2010

Geographic Area	PILT (thousands of dollars)
Adams County, Idaho	\$179
Bear Lake County, Idaho	\$373
Bingham County, Idaho	\$679
Blaine County, Idaho	\$1,807
Bonneville County, Idaho	\$1,065
Butte County, Idaho	\$295
Camas County, Idaho	\$147
Caribou County, Idaho	\$507
Cassia County, Idaho	\$1,874
Clark County, Idaho	\$153
Custer County, Idaho	\$684
Elmore County, Idaho	\$2,338
Fremont County, Idaho	\$591
Gem County, Idaho	\$220
Gooding County, Idaho	\$603
Jefferson County, Idaho	\$452
Jerome County, Idaho	\$232
Lemhi County, Idaho	\$874
Lincoln County, Idaho	\$749
Madison County, Idaho	\$21
Minidoka County, Idaho	\$430
Oneida County, Idaho	\$532
Owyhee County, Idaho	\$1,209
Payette County, Idaho	\$153
Power County, Idaho	\$704
Twin Falls County, Idaho	\$1,530
Washington County, Idaho	\$770
Beaverhead County, Montana	\$674
Madison County, Montana	\$443
Socioeconomic Study Area	\$22,070

Sources: DOI 2012. . Includes payments received from BLM, Forest Service, Bureau of Reclamation, National Park Service, and USFWS.

general fund of the counties where the revenue was generated. In Montana, 25 percent of federal mineral royalties are distributed to counties (Headwaters Economics 2011). Other revenues from federal lands include fees for grazing, recreation, and rents on ROWs.

BLM Expenditures and Employment

BLM offices provide a direct contribution to the economy of the local and surrounding area. BLM operations and management make direct contributions to area economic activity by

employing people who reside within the area and by spending on project related goods and services. Contracts for facilities maintenance, shuttling vehicles, and projects contribute directly to the area economy and social stability as well. **Table 3-71**, BLM and Forest Service Employment and Related Expenditures in the Socioeconomic Study Area, provides available information on the BLM expenditures from each field office, including both labor and nonlabor expenditures.

Table 3-71
BLM and Forest Service Employment and Related Expenditures in the Socioeconomic Study Area

Agency	State	Field Office	Employment, 2011 (Full- Time)	Nonlabor Expenditures, 2011 (2010 dollars)
BLM	Idaho	Bruneau	14.2	\$189,214
	Idaho	Burley	23.9	\$1,776,536
	Idaho	Challis	21.9	\$472,283
	Idaho	Four Rivers	20.8	\$810,326
	Idaho	Jarbridge	23.5	\$6,072,960
	Idaho	Owyhee	20.0	\$594,148
	Idaho	Pocatello	30.9	\$699,083
	Idaho	Salmon	24.8	\$670,559
	Idaho	Shoshone	24.1	\$1,902,984
	Idaho	Upper Snake	30.1	\$1,104,839
	Montana	Dillon	44.9	\$1,107,213
Forest Service	Idaho	Boise National Forest	234	\$11,682,250
	Idaho, Wyoming, Utah	Caribou-Targhee National Forest	177	\$8,918,490
	Idaho	Salmon-Challis National Forest	159	\$10,828,200
	Idaho, Utah	Sawtooth National Forest	129	\$6,568,660
	Montana	Beaverhead-Deerlodge National Forest	150	\$6,942,850

Sources: BLM 2012b; Forest Service 2013d, 2013e. Values reported in 2001 dollars (BLM) or 2011 dollars (Forest Service) were converted to 2010 dollars using the Consumer Price Index (BLS 2012a)

Environmental Justice

Environmental justice pertains to the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including racial, ethnic, or socioeconomic groups, should bear a disproportionate share of the adverse environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and Tribal programs and policies). The BLM and Forest Service incorporate environmental justice into its planning process, both as a consideration in the environmental



effects analysis and by ensuring a meaningful role in the decision-making process for minority and low-income populations.

Executive Order 12898 requires federal agencies to “identify and address the disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.” The BLM Land Use Planning Handbook reiterates the BLM’s commitment to environmental justice – both in providing meaningful opportunities for low-income, minority, and Tribal populations to participate in decision-making, and to identify and minimize any disproportionately high or adverse impacts on these populations. Similarly, the US Department of Agriculture’s Departmental Regulation on Environmental Justice provides direction to agencies for integrating environmental justice considerations into USDA programs and activities, including those of Forest Service. Specifically, the Departmental Regulation on Environmental Justice calls for the identification, prevention, and mitigation of disproportionately high and adverse human health or environmental effects of USDA programs and activities on minority and low-income populations and provision for the opportunity for minority and low-income populations to participate in planning, analysis, and decision making that affects their health or environment.

According to the Council on Environmental Quality Environmental Justice Guidance Under the National Environmental Policy Act (CEQ 1997), “minority populations should be identified where either: (a) the minority population of the affected region exceeds 50 percent or (b) the minority population percentage of the affected region is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis.” The same document states that, “In identifying low-income populations, agencies may consider as a community either a group of individuals living in geographic proximity to one another, or a set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions of environmental exposure or effect.”

Additionally, the same guidance (CEQ 1997) advises that, “In order to determine whether a proposed action is likely to have disproportionately high and adverse human health or environmental effects on low-income populations, minority populations, or Indian tribes, agencies should identify a geographic scale, obtain demographic information on the potential impact area, and determine if there is a disproportionately high and adverse effect on these populations. Agencies may use demographic data available from the Bureau of the Census to identify the composition of the potentially affected population. Geographic distribution by race, ethnicity, and income, as well as a delineation of tribal lands and resources, should be examined.”

Minority Populations

Table 3-72, Population Race and Ethnicity, 2010, summarizes the percentage of the population made up of ethnic minority groups in each county of the Socioeconomic Study Area and in the State of Idaho, the State of Montana, and the United States as a whole.

Table 3-72
Population Race and Ethnicity, 2010

Geographic Unit Analyzed	Total Population	Percent of Total Population								
		White	Black or African American	Alaska Native or American Indian	Asian	Native Hawaiian & Other Pacific Islander	Other Race	Two or More Races	Hispanic or Latino ¹	Total Minorities ²
Adams County, Idaho	3,976	96.1	0.1	1.0	0.4	0.1	0.7	1.7	2.4	5.3
Bear Lake County, Idaho	5,986	96.3	0.1	0.5	0.4	0.0	1.6	1.1	3.6	5.2
Bingham County, Idaho	45,607	80.6	0.2	6.5	0.6	0.1	9.8	2.1	17.2	24.9
Blaine County, Idaho	21,376	84.9	0.2	0.6	0.9	0.1	11.8	1.5	20.0	22.0
Bonneville County, Idaho	104,234	90.6	0.6	0.8	0.8	0.1	5.1	2.1	11.4	14.6
Butte County, Idaho	2,891	95.5	0.2	0.4	0.2	0.2	2.0	1.5	4.1	6.2
Camas County, Idaho	1,117	94.1	0.3	0.5	0.1	0.0	1.8	3.2	6.7	9.7
Caribou County, Idaho	6,963	95.3	0.1	0.3	0.2	0.2	2.3	1.5	4.8	6.9
Cassia County, Idaho	22,952	81.8	0.3	0.8	0.5	0.1	14.2	2.3	24.9	27.1
Clark County, Idaho	982	72.4	0.7	1.0	0.5	0.0	23.8	1.5	40.5	42.9
Custer County, Idaho	4,368	96.4	0.2	0.6	0.2	0.1	1.5	1.0	4.0	5.9
Elmore County, Idaho	27,038	82.2	2.7	1.0	2.8	0.4	6.8	4.1	15.2	24.7
Fremont County, Idaho	13,242	89.5	0.3	0.7	0.2	0.1	7.6	1.5	12.8	14.8
Gem County, Idaho	16,719	93.4	0.1	0.6	0.5	0.1	3.1	2.2	8.0	10.9
Gooding County, Idaho	15,464	80.7	0.2	0.8	0.5	0.1	15.3	2.4	28.1	30.5
Jefferson County, Idaho	26,140	91.2	0.2	0.8	0.4	0.1	5.8	1.5	10.1	12.3
Jerome County, Idaho	22,374	80.0	0.3	1.3	0.3	0.1	15.8	2.1	31.0	33.2
Lemhi County, Idaho	7,936	96.4	0.2	0.7	0.4	0.0	0.6	1.6	2.3	4.9
Lincoln County, Idaho	5,208	80.1	0.4	0.7	0.4	0.1	16.2	2.2	28.3	30.6
Madison County, Idaho	37,536	93.9	0.5	0.3	0.9	0.1	2.8	1.5	5.9	8.7
Minidoka County, Idaho	20,069	80.2	0.4	1.2	0.4	0.0	15.3	2.4	32.4	34.6
Oneida County, Idaho	4,286	96.7	0.2	0.5	0.5	0.0	1.1	1.0	2.9	4.9
Owyhee County, Idaho	11,526	76.0	0.2	4.3	0.5	0.0	16.6	2.4	25.8	31.6
Payette County, Idaho	22,623	88.6	0.2	1.1	0.8	0.1	6.3	2.8	14.9	18.7
Power County, Idaho	7,817	75.1	0.3	2.3	0.4	0.1	19.5	2.4	29.8	34.0
Twin Falls County, Idaho	77,230	88.9	0.4	0.8	1.2	0.1	6.3	2.3	13.7	17.4
Washington County, Idaho	10,198	86.6	0.2	1.0	0.9	0.0	9.1	2.2	16.8	19.7
Beaverhead County, Montana	9,246	94.8	0.2	1.4	0.4	0.4	1.2	1.6	3.7	7.3
Madison County, Montana	7,691	96.8	0.2	0.5	0.3	0.0	0.8	1.4	2.4	4.6

Table 3-72
Population Race and Ethnicity, 2010

Geographic Unit Analyzed	Total Population	Percent of Total Population								
		White	Black or African American	Alaska Native or American Indian	Asian	Native Hawaiian & Other Pacific Islander	Other Race	Two or More Races	Hispanic or Latino ¹	Total Minorities ²
Socioeconomic Study Area	562,795	87.5	0.5	1.4	0.8	0.1	7.6	2.1	15.0	18.6
Idaho	1,567,582	89.1	0.6	1.4	1.2	0.1	5.1	2.5	11.2	15.9
Montana	989,415	89.4	0.4	6.3	0.6	0.1	0.6	2.5	2.9	12.3
United States	308,745,538	72.4	12.6	0.9	4.8	0.2	6.2	2.9	16.3	36.0

Source: US Census Bureau 2010b.

¹ Individuals who identify themselves as Hispanic or Latino might be of any race; the sum of the other percentages under the “Percent of Total Population” columns plus the “Hispanic or Latino” column therefore does not equal 100 percent, and the sum of the percentages for each racial and ethnic category does not equal the percentage of “total minorities”.

² The total minority population, for the purposes of this analysis, is the total population for the geographic unit analyzed minus the non-Latino /Hispanic white population.

Of the 27 Idaho counties in the Socioeconomic Study Area, 14 have a higher minority population than Idaho as a whole, while neither of the 2 Montana counties in the Socioeconomic Study Area have a higher minority population than Montana as a whole. The percentage of minorities among counties ranges from a low of 4.6 percent in Madison County, Montana, to a high of 42.9 percent in Clark County, Idaho. Several Idaho counties have a Hispanic or Latino population greater than 25 percent, with the highest being Clark County (41 percent). Additionally, Montana as a whole has a high percentage of Alaska Native or American Indian residents (6.3 percent), though neither of the Montana counties included in the study area have a population of this minority group higher than 2 percent.

Low-income Populations

Table 3-73, Low-Income Populations, 2006-2010 Average, summarizes the percentage of the population below the poverty line in each county of the Socioeconomic Study Area and in Montana, Idaho, and the United States as a whole. Following the Office of Management and Budget’s Directive 14, the Census Bureau uses a set of money income thresholds that vary by family size and composition to detect what part of the population is considered to be in poverty (US Census Bureau 2012b).

Of the 27 Idaho counties in the Socioeconomic Study Area, 14 have a higher percentage of residents below the poverty line than Idaho overall (13.6 percent), and 1 of the 2 Montana counties has a higher percentage of residents below the poverty line than Montana as a

Table 3-73
Low-Income Populations, 2006-2010 Average

Geographic Area	Percent Population Below Poverty Level
Adams County, Idaho	12.4
Bear Lake County, Idaho	13.9
Bingham County, Idaho	14.7
Blaine County, Idaho	9.3
Bonneville County, Idaho	11.0
Butte County, Idaho	13.8
Camas County, Idaho	16.3
Caribou County, Idaho	8.4
Cassia County, Idaho	15.4
Clark County, Idaho	11.3
Custer County, Idaho	13.8
Elmore County, Idaho	12.0
Fremont County, Idaho	8.5
Gem County, Idaho	14.7
Gooding County, Idaho	16.5
Jefferson County, Idaho	10.2
Jerome County, Idaho	15.5
Lemhi County, Idaho	20.0
Lincoln County, Idaho	15.3
Madison County, Idaho	32.2
Minidoka County, Idaho	13.1
Oneida County, Idaho	13.4
Owyhee County, Idaho	22.2
Payette County, Idaho	15.7
Power County, Idaho	11.1
Twin Falls County, Idaho	13.0
Washington County, Idaho	13.2
Beaverhead County, Montana	15.0
Madison County, Montana	11.6
Socioeconomic Study Area	14.3
Idaho	13.6
Montana	14.5
United States	13.8

Source: US Census Bureau 2010c

whole (14.5 percent). Both Idaho and Montana have a higher percentage of residents above the poverty line than the United States as a whole (13.8 percent). The percentages of residents below the poverty line range from a low of 8.4 percent in Caribou County, Idaho, to a high of 32.2 percent in Madison County, Idaho.



Tribal Populations

Five Native American reservations in the State of Idaho are home to federally recognized tribes. These reservations comprise almost 2 million acres in trust. The Shoshone-Bannock Tribe of the Fort Hall Indian Reservation (Bannock, Bingham, Caribou, and Power Counties) and Shoshone-Paiute Tribe of the Duck Valley Indian Reservation (Owyhee County) are located within the Socioeconomic Study Area. Other tribes outside the Socioeconomic Study Area include Coeur d'Alene in Benewah and Kootenai Counties; Kootenai in Boundary County; and Nez Perce in Clearwater, Idaho, Latah, Lewis, and Nez Perce Counties (Rodríguez 2011).

Several major tribes live in Montana: the Blackfeet nation, the Confederated Salish, the Pend d'Oreille, the Kootenai, the Assiniboine, the Sioux, the Northern Cheyenne, the Crow Nation, the Gros Ventre, and the Little Shell Chippewa (Montana Office of Indian Affairs 2011). However, none of these tribes' reservations are located in or near the Socioeconomic Study Area.

3.24 Forest and Woodland Products

The NEPA, the FLPMA, the Water Quality Act of 1987, as amended from the Federal Water Pollution Control Act (Clean Water Act) of 1977, the Endangered Species Act of 1973, and the Archaeological Resources Protection Act of 1979 direct the protection and management of forest management and woodland products on BLM-administered lands. The FLPMA directs that BLM-administered lands be managed on the basis of multiple use and sustained yield without the permanent impairment of the productivity of the land and the quality of the environment. Guidance provided under FLPMA applies to those forested lands containing what is traditionally referred to as timber lands, capable of producing in excess of 20 cubic feet per acre per year; as well as woodlands, those forested lands producing less than 20 cubic feet per acre per year; and other vegetative material, or those lands containing cactus and other salable vegetation which were not previously covered by management policy. Other salable vegetation includes Christmas trees and plant seed. BLM forest management policy and requirements are identified in the BLM Forest Management regulations (43 CFR Part 5000).

In the analysis area there are approximately 368,000 acres of BLM-administered forest land; 250,000 acres of BLM-administered forest land (timberland) available for commercial management; 353,000 acres of BLM-administered woodland; and 197,000 acres of BLM-administered woodland available for commercial management.

In the analysis area, annual production of commercial product from timberlands has averaged approximately 2,877 thousand board feet (MBF) per year. Annual production of special forest products (wood) in the past ten years has averaged approximately: 4 MBF per year for sawtimber; 490 MBF for fuel wood; 8 MBF per year for fence posts; 11 MBF per year for fence poles; and 1 MBF per year for other wood products (such as mine timbers and teepee poles). Annual production of special forest products (nonwood, such as Christmas trees) in the past 10 years has averaged approximately 379 tickets per year.

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Chapter 4

Environmental Consequences



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Chapter 4. Environmental Consequences

Chapter 4, Environmental Consequences, presents the direct, indirect, and cumulative impacts on the human and natural environment anticipated to occur from implementing the alternatives presented in **Chapter 2**. The purpose of this chapter is to describe to the decision maker and the public how the environment could change if any of the alternatives in Chapter 2 were to be implemented. It is meant to aid in deciding which land use plan amendment, if any, to adopt.

This chapter is organized by topic, similar to Chapter 3. Each topic area includes the following:

- A method of analysis section that identifies indicators and assumptions
- An analysis of impacts for each of the six alternatives

Management actions proposed in Chapter 2 are planning-level decisions that do not result in direct on-the-ground changes. The analysis focuses on impacts that could eventually result in on-the-ground changes. It does this by planning for land use on surface estate and federal mineral estate administered by the BLM and Forest Service over the life of the plan.

Some management actions may affect only certain resources and alternatives. This impact analysis focuses on those impacts that could impair a resource. If an activity or action is not addressed in a given section, either there are no impacts or the impacts are negligible, based on professional judgment.

The projected impacts on land use activities and the associated environmental impacts of land uses are characterized and evaluated for each of the alternatives. Impacts for the following resources are expected to be negligible, therefore they are not discussed in detail: air resources, soil resources, water resources, special status species (other than GRSG), fish and wildlife, cultural resources, tribal interests, paleontological resources, visual resources, cave and karst resources, forestry, recreation, and special designations (e.g., National Historic Trails, Wild and Scenic Rivers, Wilderness Areas, Wilderness Study Areas, National Monuments, and National Conservation Areas).

Impact analysis is a cause-and-effect process. The detailed impact analyses and conclusions are based on the following:

- The BLM and Forest Service planning team's knowledge of resources and the project area
- Reviews of existing literature
- Information provided by experts in the BLM and Forest Service, other agencies, cooperating agencies, interest groups, and concerned citizens

The baseline used for the impact analysis is the current condition or situation, as described in Chapter 3. Impacts on resources and resource uses are analyzed and discussed in detail,

commensurate with resource issues and concerns identified through the process. At times, impacts are described using ranges of potential impacts or in qualitative terms.

4.1 Analytical Assumptions

Several overarching assumptions have been made in order to facilitate the analysis of the project impacts. These assumptions set guidelines and provide reasonably foreseeable projected levels of development that would occur in the planning area during the planning period. These assumptions should not be interpreted as constraining or redefining the management objectives and actions proposed for each alternative, as described in Chapter 2.

The following general assumptions apply to all resource categories; any specific resource assumptions are provided in the methods and assumptions section for that resource:

- Sufficient funding and personnel would be available for implementing the final decision.
- Implementing actions from any of the LUPA alternatives would comply with all valid existing rights, federal regulations, BLM and Forest Service policies, and other requirements.
- Implementation-level actions necessary to execute the land use plan-level decisions in this LUPA would be subject to further environmental review, including that under NEPA, as appropriate.
- Direct and indirect impacts of implementing the LUPA would primarily occur on BLM- and Forest Service-administered lands in the planning area.
- Local climate patterns of historic record and related conditions for plant growth may change with warmer, drier conditions likely to occur over the life of this plan.
- In the future, as tools for predicting climate changes in a management area improve and climate change affects resources and necessitates changes in how resources are managed, the BLM and Forest Service may be required to reevaluate decisions made as part of this planning process and adjust management accordingly.
- The BLM and Forest Service would carry out appropriate maintenance for the functional capability of all developments.
- The discussion of impacts is based on best available data. Knowledge of the planning area and decision area and professional judgment, based on observation and analysis of conditions and responses in similar areas, are used for environmental impacts where data are limited.
- Restrictions (such as siting, design, and mitigation measures) apply, where appropriate, to surface-disturbing activities associated with land use

authorizations and permits issued on BLM- and Forest Service- administered lands.

- New information may lead to changes in delineated GRSG habitat. New habitats, or areas that are no longer habitat, may be identified. This adjustment would typically result in small changes to areas requiring the stipulations or management actions stated in this LUPA. Modifications to GRSG habitat would be updated in the existing data inventory through LUP maintenance.
- Acreage figures and other numbers used in the analyses are approximate projections for comparison and analysis only. Readers should not infer that they reflect exact measurements or precise calculations.

4.1.1 General Methodology for Analyzing Impacts

Potential impacts are described in terms of type, context, duration and intensity, which are generally defined below.

Type of impact—Because types of impacts can be interpreted differently by different people, this chapter does not differentiate between beneficial and adverse impacts (except in cases where such characterization is required by law, regulation, or policy). The presentation of impacts for key planning issues is intended to provide the BLM and Forest Service decision makers and readers with an understanding of how multiple uses are balanced for each alternative.

Context—This describes the area or location (site-specific, local, planning area-wide, or regional) in which the impact would occur. Site-specific impacts would occur at the location of the action, local impacts would occur within the general vicinity of the action area, planning area-wide impacts would affect a greater portion of decision area lands in the sub-region, and regional impacts would extend beyond the planning area boundaries.

Duration—This describes the duration of an effect, either short term or long term. Unless otherwise noted, short term is defined as anticipated to begin and end within the first 10 years after the action is implemented; long term is defined as lasting beyond 10 years to the end of or beyond the life of this LUPA.

Intensity—Rather than categorize impacts by intensity (e.g., major, moderate, or minor), this analysis discusses impacts using quantitative data wherever possible.

Direct, indirect, and cumulative impacts—Direct impacts are caused by an action or implementation of an alternative and occur at the same time and place; indirect impacts result from implementing an action or alternative but usually occur later in time or are removed in distance and are reasonably certain to occur. Cumulative impacts are effects on the environment that result from the impact of implementing any one of the Idaho and Southwestern Montana GRSG LUPA/EIS alternatives in combination with other actions outside the scope of this plan, either within the planning area or next to it. The cumulative effects analysis is provided in Section 4.15.

4.1.2 Incomplete or Unavailable Information

The CEQ established implementing regulations for NEPA, requiring that a federal agency identify relevant information that may be incomplete or unavailable for evaluating reasonably foreseeable significant adverse impacts in an EIS (40 CFR 1502.22). If the information is essential to a reasoned choice among alternatives, it must be included or addressed in an EIS. Knowledge and information is, and would always be, incomplete, particularly with infinitely complex ecosystems considered at various scales.

The best available information pertinent to the decisions to be made was used in developing the LUPA. The BLM has made a considerable effort to acquire and convert resource data into digital format for use in the LUPA, both from the BLM itself and from outside sources.

Under the FLPMA, the inventory of BLM- and Forest Service-administered land resources is ongoing and continuously updated. However, certain information was unavailable for use in developing the LUPA because inventories either have not been conducted or are not complete. Some of the major types of data that are incomplete or unavailable are the following:

- Comprehensive state-wide inventory of wildlife and special status species occurrence and condition
- Geographical information system data used for disturbance calculations on private lands

For these resources, estimates were made concerning the number, type, and significance of these resources based on previous surveys and existing knowledge. In addition, some impacts cannot be quantified, given the proposed management actions. Where this gap occurs, impacts are projected in qualitative terms or, in some instances, are described as unknown. Subsequent site-specific project-level analysis would provide the opportunity to collect and examine site-specific inventory data to determine appropriate application of LUP-level guidance. In addition, the BLM and other agencies in the planning area continue to update and refine information used to implement this LUPA.

4.2 Sage-Grouse and Sage-Grouse Habitat

This section discusses impacts on GRSG from proposed management actions under each alternative. Existing conditions concerning GRSG are described in **Section 3.2**.

4.2.1 Methods and Assumptions

This analysis is organized by threats to GRSG as categorized in the USFWS's *12-Month Findings for Petitions to List the Greater Sage-Grouse (Centrocercus urophasianus) as Threatened or Endangered* (USFWS 2010a).

Indicators

Indicators of impacts on GRSG are as follows:

- Acres of sagebrush
- Direct habitat loss
- Habitat fragmentation
- Disruption to species life history requirements
- Population loss
- Habitat degradation
- Habitat restoration/improvement

Effects listed above may be characterized for each resource and alternative, as appropriate, and, where available, quantified by the indicators described below:

- Identified GRSG Habitat (PPH and PGH) – Identified habitat includes habitats considered vital to the persistence of GRSG populations at all scales. Acres impacted or improved by each resource is a general metric for acres of sagebrush, direct habitat loss, habitat degradation, and habitat restoration/improvement. The metrics provide a basis for a qualitative discussion of habitat loss and fragmentation and species life history requirements.
- Populations – Metric is strongly correlated to nesting habitat since radioed hens tend to nest within several miles of their lek of capture (Connelly et al. 2000). In Idaho lek to nest distances may vary spatially over large landscapes but roughly 80 percent of nests occur within 8 to 12 kilometers of the lek of capture (Connelly et al. 2013). The metric is derived by quantifying for each GRSG population area, the number of occupied leks in 2011, reflecting lek attendance by at least 2 males during at least one of the prior 5 years (2007-2011). This metric provides general insight into the population contribution of specific population areas relative to the sub-region overall, providing additional context for comparison. The metric also allows for inferences of risk to population persistence from certain threats or resource allocations (such as areas open to ROWs or mineral leasing), assuming that population areas with a smaller number of occupied leks are more vulnerable to resource activities and that areas with a greater number of occupied leks imply larger populations and a greater opportunity for long term persistence, given effective conservation efforts (see **Section 3.2**). Where land or resource allocations overlap population areas and/or occupied leks, the allocation is considered to be affecting the grouse population, for purposes of analysis. **Table 4-1**, Resource Programs Impacting GRSG by Threat in the Sub-region, relates individual resource programs to threats to the species in order of priority within the sub-region. Impacts from each resource are assessed using the indicators described above.

Table 4-1
Resource Programs Impacting GRSG by Threat in the Sub-region

Threat/Issue	Resource Program
Wildfire	Fire, Fuels, Vegetation
Invasive Species	Fire, Fuels, Vegetation
Infrastructure	ROW Avoidance/Exclusion Areas, ACECs, Wilderness, Wilderness Study Areas
Energy Development	Areas Open/Closed to Fluid Mineral Exploration, Leasing and Development
Human Uses	ROW Avoidance/Exclusion Areas, ACECs, Wilderness, Wilderness Study Areas, areas Open, Limited or Closed to off road motorized travel
Conifer Encroachment	Fire, Fuels, Vegetation
Climate Change	Climate Change, Fire, Fuels, Vegetation
Livestock Grazing	Areas Open/Closed to Livestock Grazing
Mining	Areas Open/Closed to locatable and salable minerals

Assumptions

Three general categories of human disturbance (to habitats) or disruption (to animals) would be the most influential on GRSG and their habitat: 1) disturbance or disruption from casual use; 2) disturbance or disruption from permitted activity; and 3) changes in habitat condition, such as from fire or presence of noxious weeds and invasive species.

The assumptions listed below are intended for large-scale planning-level analysis; project-level assumptions for NEPA may differ.

The analysis includes the following assumptions:

- GRSG Habitat Designations are assumed to represent habitat adequate to maintain GRSG populations in the sub-region. For Idaho, GRSG Habitat Designations were derived from modeling efforts completed in 2012, based on 75 percent Breeding Bird Density and 75 percent lek connectivity models as well as known winter habitat, connectivity considerations and other factors. In Montana, GRSG Habitat Designations were derived from habitat modeling of core areas by MTFWP with additional input by the BLM.
- This analysis uses PPH and PGH categories for Alternative A only to facilitate comparison across the other alternatives. There are currently no BLM- or Forest Service-administered lands designated as GRSG PPH or PGH within the sub-regional planning area, and Alternative A would neither result in the designation of PPH or PGH nor assign additional management actions to PPH or PGH areas.



- Population and subpopulation boundaries (Connelly et al. 2004) were modified to include the entirety of mapped GRSG Habitat Designations in the vicinity. (See **Section 3.2**).
- Habitat conditions and trends for each GRSG population area were determined by modeling vegetation dynamics such as wildfire, succession, insects and disease, habitat restoration projects (e.g., sagebrush seeding, grass seeding, and herbicide treatment of annual grass), prescribed fire, overgrazing, conifer encroachment and treatment, mechanical sagebrush treatment, and fuels reduction projects using the Vegetation Dynamics Development Tool (VDDT). Modeling was completed for population areas in Idaho, Utah (Sawtooth National Forest portion only), and southwestern Montana. Initial population areas from Connelly et al. (2004) were considered, but some were ultimately combined or delineated further, to accommodate similarities in vegetation models or disturbance regimes.
- Because GRSG are highly sensitive to habitat fragmentation, development, or changes in habitat conditions and require large, intact habitat patches to complete their annual life history, alternatives proposing to protect the most GRSG Habitat from disturbance are considered of greatest beneficial impact. These impacts can be described both qualitatively and quantitatively.
- Seasonal ranges of migratory and non-migratory GRSG are largely encompassed within GRSG Habitat Designations but are not sufficiently mapped to provide an assessment of direct impacts.
- GRSG Habitat Designations encompass adequate habitat for providing connectivity within populations and subpopulations. Connectivity will be considered by incorporating population area scale information in the design and implementation of restoration projects.

Impacts on GRSG accrue over varying distances from origin depending on the type of development:

- Impacts from transmission lines constructed before 2002 are likely fully manifested. Co-locating new lines would have no additional impacts if the habitat disturbance were not to exceed the width of the existing right-of-way. BMPs, RDFs, COAs, and standard operating procedures are used for analysis and would be implemented to reduce impacts on GRSG. These are subject to modification based on subsequent guidance and new science.
- Ground-disturbing activities could positively or negatively modify habitat or cause loss or gain of individuals, depending on the size of the area disturbed, the nature of the disturbance, the species affected, and the location of the disturbance; for example, juniper reduction treatments disturb the ground but could positively modify habitat in the long term.

- A 4.25-mile (6.9-kilometer) avian predator foraging distance is assumed to adequately encompass possible direct and indirect effects (Boarman and Heinrich 1999; Leu et al. 2008) in instances where increased predation from human infrastructure (e.g. power lines, wind turbines, communication towers, agricultural and urban development) is a threat.
- Energy extraction such as oil and gas, geothermal, and plan of operation mining can cause impacts up to 11.8 miles (19 kilometers) based on direct impacts of field development, including associated infrastructure, noise, lighting, and traffic (Johnson et al. 2011; Taylor et al. 2012).
- Interstate highways at 4.7 miles (7.5 kilometers) and paved roads and primary and secondary routes can cause impacts at 1.9 miles (3 kilometers) based on indirect effects measured through road density studies (Connelly et al. 2004; Holloran 2005; Lyon 2000).
- Site-specific disturbances such as small-scale mining and mineral material sites can cause impacts at 1.6 miles (2.5 kilometers) based on indirect influence distance from estimated spread of exotic plants (Bradley and Mustard 2006).

Short-term impacts would accrue over a timeframe of up to 10 years. Long-term impacts would accrue over timeframes exceeding 10 years.

4.2.2 Nature and Type of Effects

Riparian Areas and Wetlands

See Livestock Grazing Management, below.

Water Resources Management

See Livestock Grazing Management, below.

Vegetation and Habitat Restoration

Current treatments and active vegetation management typically focus on vegetation composition and structure for fuels management, habitat management, and productivity manipulation for improving the habitat and forage conditions for ungulates and other grazers (Knick et al. 2011). The distribution of these treatments can affect the distribution of GRSG and sagebrush habitats by affecting the distribution of suitable cover and forage (Manier et al. 2013, p. 169).

GRSG require high-quality habitat conditions, including a diversity of herbaceous species, vegetative and reproductive health of native grasses, and an abundance of sagebrush (Manier et al. 2013, p. 169). Residual vegetation cover, especially grass and litter, has often been noted as essential for GRSG for concealment during nesting and brood-rearing (Sveum et al. 1998; Kirol et al. 2012). Passive restoration efforts such as adjustments in management practices such as grazing systems and seasonal restriction or closures in seasonal-use areas have a reasonable chance to improve degraded or altered habitats (Manier et al. 2013, p. 170; Connelly et al. 2004).



Some areas within the Idaho and southwestern Montana sub-region are experiencing severe habitat degradation such that the establishment of “undesirable” species has displaced native species, making passive management approaches unsuitable and requiring direct manipulation (Connelly et al. 2004).

In parts of the sub-region, invasive species such as cheatgrass or native species such as juniper and pinyon pine have replaced desirable dominant species. These areas require active removal and seeding of native species for successful restoration. Active treatments within the sub-region include manual and mechanical juniper and pinyon pine removal and planting of native seed and seedlings.

Invasive plants are thought to alter plant community structure and composition, productivity, nutrient cycling, and hydrology, and may competitively exclude native plant populations. Cheatgrass competes with native grasses and forbs that are important components of GRSG habitat. Cheatgrass abundance is negatively correlated with habitat selection by GRSG (Kirol et al. 2012), indicating that changes in composition and structure associated with cheatgrass specifically degrade GRSG habitat. Invasion by medusahead (*Taeniatherum caput-medusae*) may be even worse than cheatgrass, as it also reduces perennial productivity, degrades wildlife habitat, supports high-frequency wildfire intervals, and requires intensive treatment for restoration (Davies 2010a). Expansion of conifer woodlands also threatens GRSG populations because woodlands do not provide suitable habitat and because trees displace shrubs, grasses, and forbs that are required by GRSG. Juniper expansion is also associated with increased bare ground and the potential for erosion, as well as an increase in perch sites for raptors. Juniper encroachment may also represent expansion of raptor predation threats. Invasive species cause direct degradation of sagebrush habitats, resulting in effects on local GRSG populations by affecting forage, cover quality and composition, and increased wildfire frequency and intensity, with the potential to cause complete avoidance (Manier et al. 2013, p. 135).

Results from the vegetation dynamics modeling effort are presented in tables associated with effects to each alternative. This modeling effort is described further in **Appendix Q**. Stand replacement wildfire, mosaic wildfire, overgrazing, insects and disease, and conifer encroachment were incorporated into the model to quantify changes in GRSG habitat. The modeling effort did not include changes in habitat conditions associated with permitted activities such as infrastructure development, travel management, or mineral development.

Based on guidelines provided by Connelly et al. (2000) and the GRSG National Technical Team Report (NTT 2011), 70 percent of an area should be in 10 to 30 percent sagebrush canopy cover to meet GRSG sagebrush habitat objectives. The tables included as part of the vegetation impacts for each alternative present the percentage of a given GRSG analysis area meeting GRSG sagebrush habitat objectives by alternative after 10 years and 50 years’ time.

Livestock Grazing Management

Livestock grazing is the most widespread land use across the sagebrush biome (Connelly et al. 2004, pp. 7-29). Livestock grazing can affect soils, vegetation, water, and nutrient availability by consuming or altering vegetation, redistributing nutrients and plant seeds,

trampling soils and vegetation, and disrupting microbial composition (Connelly et al. 2004). Livestock may also trample nests and disturb GRSG behavior (NTT 2011, p. 14). Livestock grazing is a diffuse form of biotic disturbance that exerts repeated pressure on a system over many years; unlike point-sources of disturbance (e.g., fires), effects of grazing are not likely to be detected as disruptions, but as differences in the processes and functioning of the sagebrush system. Grazing effects are not distributed evenly because historic practices, management, and animal behavior all lead to differential use of the range (Manier et al. 2013, pp. 157-168).

At improper levels of grazing, impacts can lead to loss of vegetative cover, reduced water infiltration rates, decreased plant litter, increased bare ground, reduced nutrient cycling, decreased water quality, increased soil erosion, and reduced overall habitat quality for wildlife, including GRSG (Manier et al. 2013, pp. 157-159). Properly managed, grazing, however, may protect GRSG by reducing fuel loads in certain circumstances (NTT 2011, p. 14).

Structural range improvements such as fences represent potential movement barriers (especially woven-wire fences), predator perches, or travel corridors, and are a potential cause of direct mortality to GRSG (Manier et al. 2013, p. 89).

Grazing restrictions that protect sagebrush ecosystem health would enhance habitat for GRSG populations.

Fire and Fuels Management

Fire is the primary threat to GRSG populations in the western half of their distribution. Within the Snake River Plain floristic province, which comprises a substantial portion of the sub-region, approximately 37 percent of the sagebrush area burned between 1980 and 2007 (Baker 2011). Fire is particularly problematic in sagebrush systems because it kills sagebrush plants and, in some cases, re-burns before sagebrush has a chance to re-establish.

Fire is a primary threat to GRSG populations where increasing exotic annual grasses, primarily cheatgrass, are resulting in sagebrush loss and degradation (USFWS 2010a, p. 13,932). Cheatgrass can more easily invade and create its own feedback loop in areas that are: 1) dry with understory vegetation cover that is not substantial, or 2) experiencing surface-disturbing activities (e.g., road construction). It can facilitate short fire return intervals by outcompeting native herbaceous vegetation with early germination, early moisture and nutrient uptake, prolific seed production, and early senescence (Hulbert 1955; Mack and Pyke 1983; Pellant 1996). Furthermore, by providing a dry, fine fuel source during the peak of fire season, cheatgrass increases the likelihood of fire and thus increases the likelihood of further cheatgrass spread (Pellant 1990). Without fire, cheatgrass dominance can exclude sagebrush seedlings from establishing. With fire, areas can be converted to annual grasslands. Without shrubs and a diversity of grasses and forbs, such annual grasslands will not support GRSG, and populations could be displaced.

Fire risk and the likelihood of perpetuating the cheatgrass-fire cycle in GRSG habitat is highest in arid, low-elevation areas with Wyoming big sagebrush (*Artemisia tridentata* ssp.



tridentata), particularly in areas where there is ground disturbance or areas where cheatgrass is currently established. Ground disturbance, such as roads, facilitates the establishment and spread of cheatgrass and other invasive weeds (Gelbard and Belnap 2003). While fires do occur within higher elevation mountain big sagebrush (e.g. *Artemisia tridentata* ssp. *vaseyana*) habitats, they are typically smaller and more variable in intensity and ecological communities typically have a higher resilience to disturbance.

Another factor affecting fire in some sagebrush sites is the encroachment of pinyon and (especially) juniper trees from higher elevations down slope into sagebrush habitats (Baker 2011; Balch et al. 2012). Under suitable conditions, wildfires that start in pinyon and juniper stands can move into Wyoming big sagebrush stands. In the absence of cheatgrass, Wyoming sagebrush sites can take 150 years to recover. Where cheatgrass is present, fire can open the site to invasion of other annual grasses as described above.

In the Idaho and southwestern Montana sub-region, several population areas or portions thereof have experienced substantially declining trends in habitat directly attributable to fire (i.e., Jarbidge portion of South Snake River; North Snake River; Weiser). Depending on the amount of habitat available to the birds, a single fire can influence a local population's distribution, migratory patterns, and overall habitat availability (Fischer et al. 1997, p. 89). In degraded GRSG habitats where cheatgrass is dominant under the sagebrush canopy, the habitat may be adequate winter habitat. However, these areas likely lack the understory forb diversity and insect abundance necessary for brood-rearing and could result in lower chick survival. These areas would also lack the necessary cover for nesting due to the absence of perennial grasses. As GRSG habitats become smaller in scale and less connected to adjacent populations, they become increasingly susceptible to random events and local extirpation (Knick and Hanser 2011; Wisdom et al. 2011). In addition, genetically isolated populations could suffer from a decrease in fitness known as inbreeding depression.

The cheatgrass fire cycle causes GRSG habitat loss and degradation on an annual basis. Currently, due to the extent of the threat, there are no management actions that can effectively alter this trend. While research and management efforts are focused on developing means of controlling cheatgrass on a large scale, the only current management actions, under the fire program, to minimize the likelihood of fire ignition or the extent of fire in GRSG habitat are fuels treatments, pre-suppression planning, and effective fire suppression geared toward protecting GRSG habitat. Reducing the spread of cheatgrass and the likelihood of wildfire ignition through appropriate conservation actions associated with other BLM and Forest Service-authorized programs is also an option.

Wild Horse and Burro Management

While not as widespread as livestock grazing, wild horse and burro management is still a major land use across portions of the sagebrush biome. In the Idaho and southwestern Montana sub-region, there are no wild burros. However six horse herd management areas (HMAs) and portions of HMAs occur within or adjacent to four GRSG population areas in the sub-region including: Southwest Idaho, Weiser, Mountain Valleys, and South Snake.

On a per capita body mass, horses consume more forage than cattle or sheep and remove more of the plant, which limits or delays vegetative recovery (Menard et al. 2002), and horses can range further between water sources than cattle, thereby making them more difficult to manage. Wild horse grazing results in a reduction of shrub cover and more fragmented shrub canopies, which can negatively affect GRSG habitat (Beever and Aldridge 2011). Additionally, sites grazed by free-roaming wild horses have a greater abundance of annual invasive grasses, reduced native plant diversity and reduced grass density (Beever and Aldridge 2011). Effects of wild horses on habitats may also be more pronounced during periods of drought or vegetation stress (NTT 2011, p. 18).

Besides the impacts of fencing on GRSG, water must also be available year-round in HMAs and wild horse territories, in compliance with The Wild and Free-Roaming Horses and Burros Act of 1971. This can lead to riparian areas receiving yearlong use by wild horses or riparian areas being modified with additional fencing and troughs in order to accommodate yearlong horse use. The range improvements would result in increased potential perch sites for avian predators and less water naturally available on the ground, and would possibly have negative effects on riparian habitat depending on how each facility is constructed. According to Berger (1986), one measure of habitat quality for wild horses is the presence of meadows. Horse bands that spent more time foraging in meadows had higher reproductive success, and meadows received the highest use in proportion to their availability. At levels greater than AMLs, impacts can lead to loss of vegetative cover, decreased water quantity and quality, increased soil erosion, and reduced overall habitat quality for wildlife, including GRSG.

Locatable, Leasable, and Salable Minerals Management

Minerals development within the sub-region consists of mining locatable mineral resources at various scales that require a Notice of Intent when disturbance is 5 acres or less, or Plans of Operation when the total unreclaimed disturbance will exceed 5 acres, or if the proposed operations meet one or more of the criteria requiring a Notice of Intent or a Plan of Operations (43 CFR 3809.21 and 36 CFR 228.4). Mining is primarily for gold, silver, and copper. Leasable minerals in the sub-region include commodities such as potash and phosphate. With the exception of the Bear Lake area, potential for oil and gas development is low in much of the sub-region. Development of locatable and leasable mineral resources typically requires significant infrastructure and human activity for construction, operation, and maintenance.

Mineral extraction of all types in GRSG habitat results in habitat loss caused by construction of infrastructure and the footprint of the surface facilities/pits or above ground facilities associated with subsurface operations. Sagebrush communities that are lost or modified in locations where reclamation is not compromised by the presence or introduction of invasive grasses may not regain sagebrush cover suitable for GRSG use for 20 to 30 years or longer following interim or final reclamation. GRSG population re-establishment may take upwards of 30 years (Braun 1998). Where compromised, reclamation may only be minimally effective. Necessary infrastructure causes additional direct and indirect impacts on GRSG from



location, construction, and use of ancillary facilities, staging areas, roads, railroad tracks, and structures such as buildings and power lines.

The industrial activity associated with energy and mineral development produces noise and human activity that can disrupt the habitat and life-cycle of GRSG. All studies which assess impacts of energy development on GRSG have found negative effects on populations and habitats (Naugle et al. 2011). Noise from industrial activity may disrupt GRSG communication, which is at low-frequency and potentially masked by low-frequency noise from equipment and vehicles, resulting in reduced female attendance and yearling recruitment as seen in sharp-tailed grouse (*Pedioecetes phasianellus*; Amstrup and Phillips 1977). The mechanism of how low-frequency noise affected the birds was not known, but it is known that GRSG depend on acoustical signals to attract females to leks (Gibson and Bradbury 1985; Gratson 1993). Noise associated with oil and gas development may have played a factor in habitat selection and a decrease in lek attendance by GRSG (Holloran 2005). Recent studies in oil and gas areas suggest males and possibly females avoid leks exposed to anthropogenic noise (Blickley et al. 2011). Chronic noise pollution can also cause GRSG to avoid otherwise suitable habitat and can cause elevated stress levels in the birds that remain in noisy areas (Blickley et al. 2012).

Infrastructure for mining is similar to that required for oil and gas but is more localized in extent. As revealed by studies on oil and gas development, the interaction and intensity of effects of habitat loss could cumulatively or individually lead to habitat fragmentation in the long term (Connelly et al. 2004; Holloran 2005) with negative impacts of fragmentation as a result of development and associated infrastructure on lek persistence, lek attendance, winter habitat use, recruitment, yearling annual survival rate, and female nest site choice (Holloran 2005; Aldridge and Boyce 2007; Walker et al. 2007; Doherty et al. 2008).

Land Uses and Realty Management

Transmission lines and major power lines are widespread throughout the range of GRSG. GRSG generally respond negatively to increased human infrastructure in sagebrush habitats, including roads, power lines, and communication towers (Manier et al. 2013, pp. 71-74). Although transmission and power line construction does not generally result in substantial direct habitat loss, it would temporarily disturb individual GRSG and habitat along the ROW due to the associated human activity, equipment, and noise. Roads associated with energy transmission facilities can also reduce the amount and quality of GRSG habitat.

Following construction, GRSG avoidance of vertical structures, potentially due to avian predators perching on the structures, may result in habitat exclusion via behavioral response. One study reported that the frequency of raptor/GRSG interactions during the breeding season increased 65 percent and golden eagle interactions alone increased 47 percent in an area in pre- and post-transmission line comparisons (Manier et al. 2013, pp. 81-82). A west-central Idaho study using spatial statistics and point-pattern simulations found that Sage-Grouse avoided power transmission lines by 600 meters (approximately 0.37 miles; Gillan et al. 2013). Additionally, the tendency of GRSG to fly relatively low, and in low light or when harried, may put them at high risk of collision with power lines (Manier et al. 2013, pp. 81-82).

In areas managed as ROW exclusion, the BLM would prohibit all development of ROWs, with some exceptions provided, while in areas managed as ROW avoidance, the BLM would consider whether a ROW would be allowed on a case-by-case basis. This flexibility may be advantageous where federal and private land-ownership areas are mixed and exclusion areas may result in more widespread development on private lands if BLM-administered lands could not be used. Land tenure adjustments or withdrawals made in GRSG habitat could reduce the habitat available to sustain GRSG populations, unless provisions were made to ensure that GRSG conservation remained a priority under the new land management regime. Conserving GRSG habitat through retention is a priority under current management in the Dillon Field Office. Land tenure actions designed to decrease fragmentation of GRSG habitat would help GRSG populations (NTT 2011, p. 12).

Renewable Energy

Federal lands in the western United States have significant potential to produce energy from wind power (Connelly et al. 2004) but few wind turbines currently exist within the range of GRSG making assessment of this threat challenging (Manier et al. 2013). Only about 1,800 acres (0.001 percent) of GRSG habitat are currently directly influenced by wind turbines within the range of the species; indirect effects are found on about 0.31 percent of priority habitat, and the majority (72 percent of affected habitat is associated with private lands (Manier et al. 2013). The Snake River Plain WAFWA GRSG MZ (IV), which comprises the vast majority of the Idaho and southwestern Montana sub-region, totaled about 87 square miles (225 square kilometers) leased for wind energy (Knick et al. 2011), but there currently is no commercial wind development on BLM- or Forest Service-administered lands. The Wyoming Basin (MZ II) totaled 536 square miles (1,387 square kilometers) leased (Knick et al. 2011). However, only the Bear Lake area of MZ II in southeastern Idaho is actually in the sub-region, and there currently are no wind leases on BLM- or Forest Service-administered lands.

Geothermal production provides 17 percent of the renewable electricity generation in the United States, most of which is in California outside of sagebrush habitat (Knick et al. 2011). Geothermal production within the current range of GRSG is primarily in the Great Basin (Knick et al. 2011). Much speculation occurs regarding the potential for renewable energy facilities to affect GRSG because renewable energy in general is too recent to ascertain immediate or lag effects caused by the industry.

Geothermal occurrence potential is particularly high throughout much of the sub-region, and encompasses most Sage-Grouse PPH and PGH (Manier et al. 2013). However, actual leases in GRSG habitat are relatively minor. Because GRSG have evolved in habitats with little vertical structure, it is conjectured that tall vertical structures such as wind turbines will displace GRSG from their normally used habitat (Johnson and Stephens 2011). It is unknown if local populations affected by anthropogenic energy disturbances would become acclimated and return to use the area and maintain viable population numbers.

Because large-scale development of renewable energy resources is recent compared with oil and gas, many of the potential impacts of renewable energy on GRSG have not been



studied. However, potential development impacts on GRSG can be anticipated from studies of oil and gas development on the species (Becker et al. 2009).

Impacts from energy development accrue both locally and cumulatively at the landscape scale. Accumulated evidence across landscape-scale studies show that GRSG populations typically decline following oil and gas development (Holloran 2005; Walker et al. 2007; Doherty et al. 2008). Oil and gas infrastructure and associated human activity have been shown to adversely affect GRSG populations collectively and in some instances, impacts have been directly attributed to certain anthropogenic features (e.g., roads, power lines, noise, and associated infrastructure; Walker et al. 2007; Doherty et al. 2008; Lyon and Anderson 2003; Holloran 2005; Kaiser 2006; Aldridge and Boyce 2007).

Renewable energy development and its infrastructure (e.g., power lines, roads, and construction activities) may negatively affect GRSG populations via several different mechanisms. For example, concerns with wind energy development include noise produced by rotor blades, GRSG avoidance of structures, mortality of GRSG that fly into rotors, and the presence of new roads and power lines (Connelly et al. 2004; Manier et al. 2013). Mechanisms responsible for cumulative impacts that lead to population declines depend on the magnitude, frequency, and duration of human disturbance. GRSG may abandon leks if repeatedly disturbed by raptors perching on power lines or other tall vertical structures near leks (Ellis 1984), by vehicular traffic on roads (Lyon and Anderson 2003) or by noise and human activity associated with energy development (Braun et al. 2002; Holloran 2005; Kaiser 2006). Displacement of birds from nests due to low flying military aircraft in southern Idaho has been identified as a concern by the Shoshone-Paiute tribes. There have been no specific studies relating military overflights to GRSG mortality; however, the June 2012 Mountain Home Air Force Base Integrated Resource Management Plan assessed the impacts of military overflights in this area (Mountain Home Air Force Base 2012). Collisions with power lines, vehicles, property fencing, and increased predation by raptors may increase mortality of birds at leks (Connelly et al. 2000a; Lammers and Collopy 2007). Roads and power lines may also indirectly affect lek persistence by altering productivity of local populations or survival at other times of the year. GRSG mortality associated with power lines and roads occurs year round (Aldridge and Boyce 2007). Artificial ponds created by development (Zou et al. 2006) that support breeding mosquitoes known to vector West Nile virus (Walker et al. 2007) elevate risk of mortality from disease in late summer (Walker and Naugle 2011). GRSG may also avoid otherwise suitable habitat as development increases (Lyon and Anderson 2003; Holloran 2005; Kaiser 2006; Doherty et al. 2008).

Avoidance of development areas should not be considered a simple shift in habitat use, but rather a reduction in the distribution of GRSG (Walker et al. 2007) because avoidance is likely to result in true population declines when density dependence, competition, or displacement of birds into poorer-quality adjacent habitat lowers survival or reproduction (Holloran and Anderson 2005; Aldridge and Boyce 2007; Holloran et al. 2010). GRSG exhibit extremely high site fidelity which strongly suggests that unfamiliarity with new habitats may also reduce survival (Baxter et al. 2008), as evidenced in other grouse species (Yoder et al. 2004). GRSG avoid other anthropogenic features such as roads, power lines, oil and gas wells, and buildings (Lyon and Anderson 2003; Pruett et al. 2009). Augmentation of

dwindling GRSG populations by introduction of translocated birds or supplementing existing populations is often unsuccessful (Naugle et al. 2011; Baxter et al. 2008).

Travel and Transportation Management

The Travel and Transportation program is principally focused on road networks within the GRSG range. Though roads can range from state or interstate highways to gravel and two-track roads, BLM and Forest Service travel management primarily involves the level of access allowed to the public within travel management zones identified as closed, limited (to existing or designated roads and trails), or open. Use of roads is predominately associated with recreational pursuits on BLM- or Forest Service-administered lands and permitted uses, such as by livestock grazing permittees. Areas currently open to cross-country motorized use would be expected to have greater impacts on GRSG than those areas where travel is limited to existing roads and trails or closed to motorized use, since there would be a considerably higher likelihood of disturbance to vegetation, flushing of GRSG, nest abandonment or destruction, increased wildfire risk and spread of invasive plants and noxious weeds.

Road densities have been directly correlated with GRSG persistence. Compared with occupied GRSG range, extirpated range was 60 percent closer to highways and had 25 percent higher road densities (Manier et al. 2013 citing Wisdom et al. 2011). Within the GRSG range, 95 percent of the mapped sagebrush habitats are within 1.6 miles (2.5 kilometers) of a mapped road; density of secondary roads exceeds 3.1 miles per 247 acres (5 kilometers per square kilometer) in some regions (Knick et al. 2011). Roads have multiple impacts on wildlife in terrestrial ecosystems, including increased mortality from collision with vehicles; changes in behavior; loss, fragmentation, and alteration of habitat; spread of exotic species; and increased human access, resulting in facilitation of additional alteration and use of habitats by humans (Formann and Alexander 1998; Jackson 2000; Trombulak and Frissel 2000). The effect of roads can be expressed directly through changes in habitat and GRSG populations and indirectly through avoidance behavior because of noise created by vehicle traffic (Lyon and Anderson 2003; USFWS 2010a; See *Assumptions* and *Indicators* regarding interstates and primary routes).

Roads fragment the habitat by impeding use of migration corridors or seasonal habitats; facilitate habitat degradation in the remaining habitats by creating a corridor along which invasive plants can spread; allow for increased human noise disturbance which can result in GRSG habitat use avoidance (i.e., functional habitat loss); and increase mammalian and avian predator abundance (Formann and Alexander 1998, pp. 207-231). Connelly and others (2004) suggest road traffic within 4.7 miles of leks negatively influences male lek attendance. Similarly, lek count trends are lower near interstate, federal, or state highways compared with secondary roads (Johnson et al. 2011), and Connelly and others (2004) reported no leks within 1.25 miles of an interstate. In general, leks closer to the interstate had higher rates of decline than leks further away from the interstate (See the discussion of Interstate 80 in Nevada in **Section 3.2**). In Montana and southern Canada, as the length of roads within 2 miles of a lek increased, the likelihood of lek persistence decreased (Manier et al. 2013).

Motorized activities are expected to have a larger footprint on the landscape than non-motorized users. Cross-country motorized travel would result in increased potential for soil



compaction, loss of perennial grasses and forbs, and reduced canopy cover of sagebrush (Payne et al. 1983). Long-term losses in sagebrush canopy would likely be the result of repeated, high frequency, long duration use by cross-country OHV use. Impacts on vegetation communities would likely be greater during the spring and winter months when soil conditions are wet and more susceptible to compaction and rutting. In addition, the chances of wildfire are increased during the summer months when fire dangers are high and recreation is also at its highest. Noise and increased human presence associated with construction, use, and maintenance of roads may change GRSG behavior based on the proximity, magnitude, intensity, and duration.

Special Designations

Special designation areas (e.g., ACECs) may be established to protect GRSG and their habitat as a relevant or important value. While existing ACECs do not have GRSG as a relevant or important value, and thus management is not tailored to protect GRSG, some incidental protection may be conferred in existing ACECs by restricting resource uses intended to protect other values.

4.2.3 Impacts on GRSG and GRSG Habitat Common to All Alternatives

The nature and type of impacts described below are common to all alternatives, but the context and intensity may vary by alternative.

Impacts from Vegetation and Soils Management

Vegetation dynamics modeling was completed to describe vegetative changes across all the alternatives for the short term (10 years) and in the long term (50 years). **Table 4-2**, GRSG Habitat Condition¹ and Trend Analysis within the Idaho and Southwestern Montana Sub-region after 10 Years², and **Table 4-3**, GRSG Habitat Condition¹ and Trend Analysis within the Idaho and Southwestern Montana Sub-region after 50 Years², display these comparisons.

Impacts from Renewable Energy Management

The magnitude of impacts is different for all alternatives as the acreages of lands managed for ROWs and zoning designations vary across the alternatives (see **Table 2-3**, Comparative Allocation Summary of Alternatives, in **Chapter 2**). Acres of avoidance and exclusion areas for ROWs and SUAs in GRSG habitat would vary by alternative. **Table 4-4**, GRSG Habitat within Avoidance Areas for ROWs and SUAs in the Idaho and Southwestern Montana Sub-region, and **Table 4-5**, GRSG Habitat within Exclusion Areas for ROWs and SUAs in the Idaho and Southwestern Montana Sub-region, show the acreage where ROWs and SUAs would be restricted under each alternative.

Impacts from Livestock Grazing Management

Acres available or unavailable (closed) to grazing for each of the alternatives are described in **Table 4-6**, GRSG Habitat Acres Closed to Grazing in the Idaho and Southwestern Montana Sub-region.

Table 4-2
GRSG Habitat Condition¹ and Trend Analysis within the Idaho and Southwestern Montana Sub-region after 10 Years²

Analysis Area	Total Acres	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Southwest Idaho	5,600,000	62%	63%	61%	63%	63%	63%
South Side Snake	6,768,000	61%	60%	58%	60%	60%	60%
North Side Snake	3,854,000	70%	71%	71%	71%	71%	71%
Mountain Valleys 1 ³	717,000	82%	82%	82%	82%	82%	82%
Mountain Valleys 2 ³	2,537,000	87%	87%	87%	87%	87%	87%
Bear Lake	2,022,000	76%	77%	75%	77%	77%	77%
East-Central Idaho	320,000	90%	90%	91%	90%	90%	90%
Sawtooth	1,186,000	81%	81%	82%	81%	81%	82%
Weiser	799,000	76%	76%	75%	76%	76%	76%
Southwest Montana	1,977,000	85%	85%	86%	85%	85%	85%
All	25,780,000	70%	71%	70%	71%	71%	71%

Source: Forest Service 2013a

¹Percent of analysis area meeting GRSG sagebrush habitat objectives

²Existing habitat conditions are estimated from a combination of LANDFIRE and ReGap data sets. These data sets are the best available across both Forest Service- and BLM-administered lands, but they include some inaccuracy and error. Interpretation of and evaluation of trends in each population area should consider this.

Vegetation modeling data is intended to be an approximation of expected conditions in 50 years. In areas where existing habitat conditions are high, such as 80 to 90 percent, it is not unexpected to see a declining trend in habitat conditions. These conditions can be either a result of overestimating existing conditions or vegetation dynamics driving the trends. The vegetation modeling for each alternative assumes the vegetation treatment rates from Alternative A – No Action. For a description of analysis inputs, see Appendix L.

³The Mountain Valleys population was divided and modeled as two separate components of the vegetation dynamics model. See **Appendix L** for more details.

Table 4-3
GRSG Habitat Condition¹ and Trend Analysis within the Idaho and Southwestern Montana Sub-region after 50 Years²

Analysis Area	Total Acres	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Southwest Idaho	5,600,000	62%	65%	59%	65%	65%	66%
South Side Snake	6,768,000	70%	68%	58%	68%	68%	68%
North Side Snake	3,854,000	74%	78%	68%	76%	76%	78%
Mountain Valleys 1 ³	717,000	73%	73%	73%	73%	73%	72%
Mountain Valleys 2 ³	2,537,000	73%	73%	74%	73%	73%	74%
Bear Lake	2,022,000	67%	69%	59%	69%	69%	69%
East-Central Idaho	320,000	78%	80%	80%	78%	78%	80%
Sawtooth	1,186,000	71%	71%	72%	71%	71%	72%
Weiser	799,000	76%	79%	72%	79%	79%	79%
Southwest Montana	1,977,000	74%	74%	74%	74%	74%	74%
All	25,780,000	70%	71%	64%	70%	70%	71%

Source: Forest Service 2013a

¹Percent of analysis area meeting GRSG sagebrush habitat objectives

²Existing habitat conditions are estimated from a combination of LANDFIRE and ReGap data sets. These data sets are the best available across both Forest Service- and BLM-administered lands, but they include some inaccuracy and error. Interpretation of and evaluation of trends in each population area should consider this. Vegetation modeling data is intended to be an approximation of expected conditions in 50 years. In areas where existing habitat conditions are high, such as 80 to 90 percent, it is not unexpected to see a declining trend in habitat conditions. These conditions can be either a result of overestimating existing conditions or vegetation dynamics driving the trends. The vegetation modeling for each alternative assumes the vegetation treatment rates from Alternative A – No Action. For a description of analysis inputs, see Appendix L.

³The Mountain Valleys population was divided and modeled as two separate components of the vegetation dynamics model. See Appendix L for more details.

Table 4-4
GRSG Habitat within Avoidance Areas for ROWs and SUAs in the Idaho and Southwestern Montana Sub-region

Analysis Area	Alt. A	Alternative B		Alt. C	Alternative D ¹			Alternative E			Alternative F		
		PGMA	PPMA	PPMA	PGMA	PMMA	PPMA ¹	GHZ	IHZ	CHZ	PGMA	PPMA	PRMA
East-Central Idaho	1,040	48,790	0	10	67,500	7,630	5,900	8,430	0	0	48,800	0	0
BLM	0	4,690	0	0	23,400	7,630	4,670	4,770	0	0	4,690	0	0
Forest Service	1,040	44,100	0	10	44,100	0	1,230	3,660	0	0	44,100	0	0
Mountain Valleys	134,510	519,600	0	4,670	538,300	422,700	1,933,400	142,100	941,100	1,377,400	519,600	0	0
BLM	10	196,200	0	3,590	197,900	231,900	1,645,000	35,600	761,100	1,109,800	196,200	0	0
Forest Service	134,500	323,400	0	1,080	340,400	190,800	288,400	106,500	180,000	267,600	323,400	0	0
SW Montana	163,300	402,300	0	10	487,600	4,890	621,100	157,100	1,800	547,600	402,300	0	0
BLM	0	243,800	0	0	243,800	2,740	455,400	5,950	1,300	455,400	243,800	0	0
Forest Service	163,300	158,500	0	10	243,800	2,150	165,700	151,200	500	92,200	158,500	0	0
North Side Snake	69,600	545,300	0	1,010	579,900	247,600	1,460,200	161,100	403,100	790,300	544,300	0	290
BLM	0	462,600	0	910	493,800	228,500	1,449,300	78,600	374,800	790,500	462,600	0	290
Forest Service	69,600	82,700	0	100	86,100	19,100	10,900	82,500	28,300	0	82,700	0	0
South Side Snake	138,300	610,500	0	33,800	636,100	568,000	1,027,500	190,100	742,700	619,900	518,400	0	1,900
BLM	25,100	449,000	0	2,240	520,800	520,800	784,700	16,800	579,900	559,700	449,000	0	1,900
Forest Service	113,200	161,500	0	31,600	169,800	47,200	242,800	173,300	162,800	60,200	169,400	0	0
Southwest Idaho	10,800	334,100	0	2,730	427,600	114,500	1,747,400	33,600	460,600	984,500	334,100	0	1,930
BLM	10,800	334,100	0	2,730	427,600	80,740	1,713,600	33,600	460,600	984,500	334,100	0	1,930

Table 4-4
GRSG Habitat within Avoidance Areas for ROWs and SUAs in the Idaho and Southwestern Montana Sub-region

Analysis Area	Alt. A	Alternative B		Alt. C	Alternative D ¹			Alternative E			Alternative F		
		PGMA	PPMA	PPMA	PGMA	PMMA	PPMA ¹	GHZ	IHZ	CHZ	PGMA	PPMA	PRMA
Forest Service	0	0	0	0	0	33,800	0	0	0	0	0	0	0
Bear Lake	0	0	0	0	5,300	1,130	44,030	10	16,500	25,900	5,310	0	0
BLM	0	4,690	0	0	4,690	740	42,800	10	15,200	25,900	4,700	0	0
Forest Service	0	610	0	0	610	390	1,230	0	1,300	0	610	0	0
Weiser	0	88,870	0	0	134,900	55,500	21,700	87,700	0	0	87,900	0	0
BLM	0	87,900	0	0	134,900	55,500	21,700	87,700	0	0	87,900	0	0
Forest Service	0	970	0	0	20	0	0	0	0	0	0	0	0
Sawtooth	2,950	21,360	0	0	156,500	0	0	20,800	0	0	88,870	0	0
BLM	2,950	0	0	0	134,900	0	0	0	0	0	87,900	0	0
Forest Service	0	21,360	0	0	21,600	0	0	20,800	0	0	970	0	0
Total	520,700	2,576,100	0	0	2,898,700	1,388,100	6,868,800	801,100	2,565,700	4,345,800	2,549,600	0	4,120

Source: BLM 2013a; Forest Service 2013a

¹Includes avoidance areas with limited exclusions.

Table 4-5
GRSG Habitat within Exclusion Areas for ROWs and SUAs in the Idaho and Southwestern Montana Sub-region

Analysis Area	Alt. A	Alternative B		Alt. C	Alternative D			Alternative E			Alternative F		
		PGMA	PPMA	PPMA	PGMA	PMMA	PPMA	GHZ	IHZ	CHZ	PGMA	PPMA	PRM A
East-Central Idaho	0	0	280	79,900	0	0	0	20	0	0	0	12,300	0
BLM	0	0	280	35,800	0	0	0	20	0	0	0	12,300	0
Forest Service	0	0	0	44,100	0	0	0	0	0	0	0	0	0
Mountain Valleys	18,200	18,900	24,900	2,894,200	0	0	0	19,290	20,950	3,480	18,900	2,532,700	0
BLM	18,200	1,660	23,400	2,074,800	0	0	0	2,090	19,700	3,240	1,660	2,053,700	0
Forest Service	0	17,200	1,490	819,400	0	0	0	17,200	1,250	240	17,200	479,000	0
SW Montana	122,600	83,900	73,900	1,115,700	10	0	0	84,400	0	73,400	83,900	629,500	0
BLM	0	10	0	702,500	10	0	0	10	0	0	10	458,700	0
Forest Service	122,600	83,900	73,900	413,200	0	0	0	84,400	0	73,400	83,900	170,800	0
North Side Snake	129,500	31,200	105,900	2,284,700	0	0	0	35,400	86,600	15,200	31,200	2,092,400	1,550
BLM	129,500	31,200	105,900	2,173,200	0	0	0	35,400	86,600	15,200	31,200	2,063,600	1,550
Forest Service	0	0	0	111,500	0	0	0	0	0	0	0	28,800	0
South Side Snake	170	17,700	37,550	2,284,700	0	0	0	2,770	16,390	37,200	17,710	1,904,900	1,570
BLM	0	17,400	37,200	1,795,000	0	0	0	2,600	15,900	37,200	17,400	1,590,600	1,570
Forest Service	170	310	350	483,900	0	0	0	170	490	0	310	314,300	0

Table 4-5
GRSG Habitat within Exclusion Areas for ROWs and SUAs in the Idaho and Southwestern Montana Sub-region

Analysis Area	Alt. A	Alternative B		Alt. C	Alternative D			Alternative E			Alternative F		
		PGMA	PPMA	PPMA	PGMA	PMMA	PPMA	GHZ	IHZ	CHZ	PGMA	PPMA	PRM A
Southwest Idaho	47,500	93,600	364,900	2,292,700	0	0	0	43,800	54,100	360,600	93,600	2,321,800	0
BLM	47,500	93,600	364,900	2,292,700	0	0	0	43,800	54,100	360,600	93,600	2,321,800	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0	0
Bear Lake	0	2	250	0	0	0	0	0	0	280	2	2,180	0
BLM	0	2	280	0	0	0	0	0	0	280	2	560	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	1,620	0
Weiser	0	47,100	77,200	213,800	0	0	0	124,300	0	0	47,100	77,200	610
BLM	0	47,100	77,200	212,800	0	0	0	124,300	0	0	47,100	77,200	610
Forest Service	0	0	0	970	0	0	0	0	0	0	0	0	0
Sawtooth	1	40	0	21,400	0	0	0	40	0	0	40	0	0
BLM	0	0	0	0	0	0	0	0	0	0	0	0	0
Forest Service	1	40	0	21,400	0	0	0	40	0	0	40	0	0
Total	188,500	292,400	684,800	9,259,000	10	0	0	208,200	176,300	416,600	292,424	9,572,980	3730

Source: BLM 2013a; Forest Service 2013a

Table 4-6
GRSG Habitat Acres Closed to Grazing in the Idaho and Southwestern Montana Sub-region

Analysis Area	Alt. A	Alternative B		Alt. C	Alternative D			Alternative E			Alternative F		
		PGMA	PPMA	PPMA	PGMA	PMMA	PPMA	GHZ	IHZ	CHZ	PGMA	PPMA	PRMA
East-Central Idaho	0	0	0	35,800	0	0	0	0	0	0	0	0	0
BLM	0	0	0	35,800	0	0	0	0	0	0	0	0	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0	0
Mountain Valleys	15,800	770	15,000	2,074,800	770	0.1	9,430	0	5,670	10,100	770	15,000	0
BLM	15,800	770	15,000	2,074,800	770	0.1	9,430	0	5,670	10,100	770	15,000	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0	0
SW Montana	20,800	15,000	5,800	723,300	15,000	0	5,800	15,000	0	5,770	15,000	5,770	0
BLM	0	0	0	702,500	0	0	0	0	0	0	0	0	0
Forest Service	20,800	15,000	5,800	20,800	15,000	0	5,800	15,000	0	5,770	15,000	5,770	0
North Side Snake	0	0	0	2,171,600	0	0	0	0	0	0	0	0	0
BLM	0	0	0	2,171,600	0	0	0	0	0	0	0	0	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0	0
South Side Snake	1,070	1,080	980	1,726,700	100	960	13	1,000	80	0	100	980	0
BLM	1,080	1,080	980	1,726,700	100	960	13	1,000	80	0	100	980	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0	0
Southwest Idaho	23,900	14,400	9,460	2,223,700	14,400	30	9,430	2,930	60	20,900	14,400	9,460	0

Table 4-6
GRSG Habitat Acres Closed to Grazing in the Idaho and Southwestern Montana Sub-region

Analysis Area	Alt. A	Alternative B		Alt. C	Alternative D			Alternative E			Alternative F		
		PGMA	PPMA	PPMA	PGMA	PMMA	PPMA	GHZ	IHZ	CHZ	PGMA	PPMA	PRMA
BLM	23,900	14,400	9,460	2,223,700	14,400	30	9,430	2,930	60	20,900	14,400	9,460	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0	0
Bear Lake	240	2	24	48,200	2	0	240	0	0	240	2	240	0
BLM	240	2	240	48,200	2	0	240	0	0	240	2	240	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0	0
Weiser	0	0	0	212,200	0	0	0	0	0	0	0	0	0
BLM	0	0	0	212,200	0	0	0	0	0	0	0	0	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0	0
Sawtooth	0	0	0	0	0	0	0	0	0	0	0	0	0
BLM	0	0	0	0	0	0	0	0	0	0	0	0	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	61,800	31,300	31,300	9,216,300	30,272	990	24,900	18,900	5,810	37,010	15,900	31,500	0

Source: BLM 2013a; Forest Service 2013a

Impacts from Travel Management

Acres designated as open, limited, or closed for off-road motorized vehicle use are described in **Table 4-7**, GRSG Habitat Where Motorized Travel Would Be Limited to Roads, Designated Roads, and Trails in the Idaho and Southwest Montana Sub-Region.

Impacts from ACEC Management

Several alternatives identify the potential designation of new ACECs. These areas are described in **Table 4-8**, GRSG Habitat within BLM ACECs and Forest Service Zoological Areas in the Idaho and Southwestern Montana Sub-region.

4.2.4 Alternative A

Impacts from Vegetation and Soils Management

Under Alternative A, current management implements the Integrated Vegetation Management Handbook policies (DOI 2008-H-1740-2, Rel.1-1714), Land Health Standards, Vegetation Treatments Using Herbicides Programmatic EIS (BLM 2007a), and other policies and plans. The Integrated Vegetation Management Handbook requires an interdisciplinary and collaborative process to plan and implement vegetation treatments that improve biological diversity and ecosystem function while promoting and maintaining native plant communities that are resilient to disturbance and invasive species. Land-health standards are ecologically based goal statements which include watershed function, ecological processes, water quality, and habitat quality for threatened and endangered and special status species (43 CFR 4180.1). Land Health Standards Assessments are used to establish program priorities, determine the status of current conditions and set the stage for evaluations that are used to determine achievement or non-achievement of land-health standards.

Implementation of the above policies and plans would improve vegetation condition by decreasing invasive species, provide for native vegetation establishment in sagebrush habitat, reduce the risk of wildfire, restore fire-adapted ecosystems and repair lands damaged by fire. These policies also recognize the need to improve the diversity, resiliency and productivity of native vegetation health and persistence (BLM 2008g).

Conifer expansion is predominant in mountain sagebrush but also occurs within Wyoming and low sagebrush. Juniper dominance or encroachment is particularly problematic in portions of the Southwest Idaho and South Side Snake population areas. Douglas-fir or other conifer encroachment is also an issue locally in the Mountain Valleys, Sawtooth and Southwest Montana population areas, and possibly others. In all of the population areas, current treatment rates are not keeping pace with continued conifer encroachment.

Mechanical removal of encroaching conifers, primarily juniper species and others such as Douglas-fir would result in short-term disturbances of soils and sagebrush due to heavy equipment, skid trails, and temporary roads. Mechanical and manual treatments would also increase noise, vehicular traffic and human presence. However, once the disturbed area is recovered, there would be an increase in forage, vegetation cover quality and composition,



Table 4-7
GRSG Habitat Where Motorized Travel Would Be Limited to Roads, Designated Roads, and Trails in the Idaho and Southwest Montana Sub-Region

Analysis Area	Alt. A	Alternative B		Alt. C	Alternative D			Alternative E			Alternative F		
		PGMA	PPMA	PPMA	PGMA	PMMA	PPMA	GHZ	IHZ	CHZ	PGMA	PPMA	PRMA
East-Central Idaho	69,680	57,400	12,300	50,130	57,800	7,600	4,670	69,600	0	0	57,800	12,300	0
BLM	25,730	13,500	12,300	47,900	13,900	7,600	4,670	25,700	0	0	13,900	12,300	0
Forest Service	43,950	43,900	0	2,230	43,900	0	0	43,900	0	0	43,900	0	0
Mountain Valleys	2,110,900	477,700	2,301,800	2,820,500	518,800	422,000	1,879,700	479,600	746,200	887,300	518,800	2,301,800	0
BLM	1,319,700	137,500	1,850,800	2,029,300	178,600	231,400	1,619,400	108,200	565,400	646,900	178,600	1,850,800	0
Forest Service	791,200	340,200	451,000	791,200	340,200	190,600	260,300	371,400	180,800	240,400	340,200	451,000	0
SW Montana	1,092,000	469,900	623,800	1,093,600	469,900	4,880	618,800	473,800	510	615,100	469,900	623,800	0
BLM	690,000	235,200	456,500	691,600	235,200	2,740	453,700	236,600	0	452,900	235,200	456,500	0
Forest Service	402,000	234,700	167,300	402,000	234,700	2,140	165,100	237,200	510	162,200	234,700	167,300	0
North Side Snake	255,200	148,100	1,388,500	1,957,500	567,600	229,300	1,159,300	149,500	74,400	31,300	567,600	1,388,500	220
BLM	141,700	62,500	1,360,600	1,842,600	482,000	212,100	1,148,500	63,300	47,100	31,300	482,000	1,360,600	220
Forest Service	113,500	85,600	27,900	114,900	85,600	17,200	10,800	86,200	27,300	0	85,600	27,900	0
South Side Snake	1,862,300	493,900	1,586,700	2,197,200	610,500	550,800	1,036,000	639,400	615,500	541,100	610,500	1,586,700	32,800
BLM	1,378,200	324,200	1,272,300	1,713,100	440,800	503,700	768,600	450,700	452,000	409,200	440,800	1,272,300	32,800
Forest Service	484,100	169,700	314,400	484,100	169,700	47,100	267,400	188,700	163,500	131,900	169,700	314,400	0

Table 4-7
GRSG Habitat Where Motorized Travel Would Be Limited to Roads, Designated Roads, and Trails in the Idaho and Southwest Montana Sub-Region

Analysis Area	Alt. A	Alternative B		Alt. C	Alternative D			Alternative E			Alternative F		
		PGMA	PPMA	PPMA	PGMA	PMMA	PPMA	GHZ	IHZ	CHZ	PGMA	PPMA	PRMA
Southwest Idaho	1,791,455	341,200	1,450,200	1,791,600	341,400	72,200	1,378,000	333,000	457,100	1,006,300	341,400	1,450,200	1,930
BLM	1,791,455	341,200	1,450,200	1,791,600	341,400	72,200	1,378,000	333,000	457,100	1,006,300	341,400	1,450,200	1,930
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0	0
Bear Lake	50,130	5,300	44,920	50,130	5,300	1,130	43,730	7,810	16,500	25,900	5,300	44,920	0
BLM	47,900	4,690	43,300	47,900	4,690	740	42,500	6,870	15,200	25,900	4,690	43,300	0
Forest Service	2,230	610	1,620	2,230	610	390	1,230	940	1,300	0	610	1,620	0
Weiser	56,400	43,100	77,200	212,200	134,900	55,500	21,700	56,400	0	0	134,900	77,200	440
BLM	56,400	43,100	77,200	212,200	134,900	55,500	21,700	56,400	0	0	134,900	77,200	440
Forest Service	0	0	0	0	0	0	0	0	0	0			
Sawtooth	21,400	21,400	0	21,400	21,400	0	0	21,400	0	0	21,400	0	0
BLM	0	0	0	0	0	0	0	0	0	0	0	0	0
Forest Service	21,400	21,400	0	21,400	21,400	0	0	21,400	0	0	21,400	0	0
Total	7,309,465	2,058,000	7,485,420	10,194,260	2,727,600	1,343,410	6,141,900	2,230,510	1,910,210	3,107,000	2,727,600	7,485,420	35,390
BLM Total	5,451,085	1,161,890	6,523,200	8,376,200	1,831,490	1,085,980	5,437,070	1,280,770	1,536,800	2,572,500	1,831,490	6,523,200	35,390
Forest Service Total	1,858,380	896,110	962,220	1,818,060	896,110	257,430	704,830	949,740	373,410	534,500	896,110	962,220	0

Source: BLM 2013a; Forest Service 2013a

Table 4-8
GRSG Habitat within BLM ACECs and Forest Service Zoological Areas in the Idaho and Southwestern Montana Sub-region

Analysis Area	Alt. A	Alternative B		Alt. C	Alternative D			Alternative E			Alternative F		
		PGMA	PPMA	PPMA	PGMA	PMMA	PPMA	GHZ	IHZ	CHZ	PGMA	PPMA	PRMA
East-Central Idaho	35,800	2,450	210	35,800	2,400	210	0	2,660	0	0	2,450	210	0
Mountain Valleys	2,074,800	18,100	86,500	2,074,800	18,100	11,300	75,100	8,230	35,200	61,200	18,100	126,400	0
BLM	2,074,800	18,100	86,500	2,074,800	18,100	11,300	75,100	8,230	35,200	61,200	18,100	86,500	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	39,900	0
SW Montana	702,500	1,480	35,200	702,500	1,480	0	35,200	1,480	0	35,200	1,480	35,200	0
North Side Snake	2,171,600	7,620	21,800	2,171,600	7,620	0	21,800	9,140	12,600	7,650	7,620	21,800	1,540
South Side Snake	1,790,100	34,800	36,700	1,790,100	34,800	11,700	25,000	15,200	13,200	43,700	34,900	220,400	1,050
BLM	1,790,100	34,800	36,700	1,790,100	34,800	11,700	25,000	15,200	13,200	43,700	34,900	36,700	1,050
Forest Service	0	0	0	0	0	0	0	0	0	0	0	183,700	0
Southwest Idaho	702,500	50,000	160,600	2,223,700	50,000	1,010	159,500	7,030	530	203,100	50,000	160,600	0
Bear Lake	48,200	0	280	48,200	0	0	280	0	0	280	0	480	0
BLM	48,200	0	280	48,200	0	0	280	0	0	280	0	280	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	200	0
Weiser	212,200	6,740	850	212,200	6,740	850	0	7,590	0	0	6,740	850	0
Total	374,000	121,200	342,100	9,258,900	121,100	25,100	316,900	51,300	61,500	351,100	121,300	565,900	2,590

Source: BLM 2013a; Forest Service 2013a

reduction in predator perches, decrease in heavier fuels and fire intensity and a potential increase in water availability at nearby springs meadows and seeps.

Annual grass expansion and/or repeated fires in low-elevation sagebrush habitat in portions of the North and South Snake River population areas are outpacing existing treatment or restoration efforts.

Vegetation dynamics modeling shows that, under Alternative A, all of the eight GRSG analysis areas that are currently meeting GRSG sagebrush habitat objectives in terms of sagebrush cover on the landscape would continue to meet these objectives in 10 years, though most would show a decline in the percentage meeting the habitat objectives. This percentage would continue to drop for most of the GRSG analysis areas after 50 years. However, several analysis areas, including Southwest Idaho, South Side Snake, and Weiser, would increase their proportion meeting habitat objectives over this timeframe. (See Tables 4-2 and 4-2).

Impacts from Livestock Grazing Management

Under Alternative A, 11,226,500 acres of identified PPH and PGH) are open for livestock grazing affecting 81 percent of the modeled GRSG populations within the sub-region. Livestock grazing would continue to be managed through existing grazing plans, with methods and guidelines from the existing plans followed to maintain ecological conditions according to Standards for Rangeland Health, which include maintaining healthy, productive and diverse populations of native plants and animals. Older LUPs do not contain specific language in regards to GRSG conservation and livestock management, although many offices are covered under various conservation strategies for GRSG. Recent LUPs have more specific language regarding the management of livestock and its relation to GRSG conservation, including references to state and local GRSG plans. National and state drought policies are in place and would be followed to minimize impacts on rangelands under drought conditions. Continuation of these policies would not specifically protect GRSG habitat, although the policies could provide indirect benefits through more conservative use of existing sagebrush habitat. Direct impacts on GRSG have been reduced in some areas due to GRSG-specific management found in some conservation strategies or LUPs.

According to National BLM policy, riparian habitats would be managed to achieve PFC. On Forest Service-administered lands, riparian areas are managed through a combination of utilization standards and design features discussed/documented each year in the Annual Operating Instructions. Functional condition of riparian areas and wetlands are considered in the development of riparian utilization standards. In some cases this management would require livestock removal or restrictions in riparian areas to reduce impacts caused by livestock, such as trampling and overuse of riparian areas. Managing for PFC helps to improve riparian vegetation health through increased production and diversity of vegetation and helps to improve water retention on those sites. As a result, brood-rearing habitats for GRSG would be improved or preserved where they are applied.

Range improvements would be designed to meet both wildlife and range objectives, and would include building, modifying or marking fences to permit passage of wildlife and



reduce the chance of bird strikes, use of off-site water facilities, and in some cases modification or removal or improvements not meeting resource needs. Modifications may involve moving troughs, adding or changing wildlife escape ramps, or ensuring water is available on the ground for a variety of different wildlife species. Although not directly created to protect GRSG, these approaches would protect and enhance GRSG habitat by reducing the likelihood of surface disturbance in sensitive areas and ensuring brood-rearing habitat is available to GRSG.

Impacts from Fire and Fuels Management

Within the planning area, all LUPs address fire suppression and fuels management and all federal lands (Forest Service and BLM) are covered under fire management plans, most of which address GRSG habitat. The more recent LUPs contain more specific objectives and management action for suppression and management of fires within sagebrush vegetation communities and GRSG habitat in accordance with local conservation strategies. Each LUP supports the development and adherence to a more detailed fire management plan that outlines priorities and levels of suppression for particular vegetation classes, or resource protection. Most plans support the objective of re-introducing fire into fire-dependent ecosystems and utilize the FRCC framework to aid in prioritizing response to wildfires and determining where fire can be used to meet land management plan objectives. Plans place priority for suppression on the protection of human life, followed by property and other important resource values including wildlife, including GRSG and big game.

In general, current fire suppression activities, fuels management, post-fire emergency stabilization and fire restoration efforts focus to a large degree on the protection or improvement of GRSG habitat. Some LUPs promote the use of native seed for stabilization and restoration, which may help increase native plant diversity and thereby benefit GRSG, but this guidance is not consistently applied across the decision area. More direction for the BLM has been provided in IM 2013-128, which provides habitat maps, guidelines, and BMPs for wildland fire suppression and fuels management in GRSG habitat.

Under Alternative A, wildfires would continue to be especially problematic in several of the population areas, including North Side Snake, South Side Snake, and Southwest Idaho, primarily due to lightning and spread of cheatgrass. GRSG habitat would subsequently continue to be degraded or lost. Small and heavily disturbed populations with dominance of invasive annual grass understory would be particularly susceptible to these impacts. Additionally, there may be some direct and indirect effects on individual GRSG from direct mortality or disturbance due to fire suppression or fuels treatment activities in sagebrush areas, but this is assumed to be relatively minor, given the tradeoffs.

Impacts from Wild Horse and Burro Management

The Idaho and southwestern Montana sub-region does not contain wild burros but does contain six wild horse HMAs. Under Alternative A, overall management direction is to manage populations of wild horses to achieve a thriving natural ecological balance with respect to wildlife and other uses. Wild horses would continue to be managed on 228,446 acres of HMAs, which overlap about 2 percent of the GRSG modeled population in the sub-region. Wild horses would be managed at AML, with gathers based on gather schedules,

budgets, or other priorities such as emergency gathers during drought periods. Keeping horses at AML would reduce overall impacts on vegetation, especially nesting cover and riparian brood-rearing habitats during periods of drought.

Impacts from Leasable Minerals Management

Within the sub-region, most BLM- and Forest Service-administered lands are open to oil and gas leasing. Specific closures of areas to leasing, such as ACECs or crucial or essential wildlife habitat, exist throughout the sub-region.

Currently, 10,000,000 acres are managed as open to fluid minerals leasing and 1,319,300 acres closed to fluid minerals leasing. Lands closed to fluid minerals leasing comprise 1,016,400 acres of PPH and 243,600 acres of PGH, respectively, for a total of 1,260,000 acres combined. Closed areas provide an increased level of protection to GRSG seasonal habitats because they remove the potential for disturbance and impacts on habitat, as described in **Section 4.2.2** (see Table 4-9, Alternative A: Percent of GRSG Habitat and Occupied Leks Affected by Closure to Oil and Gas Leasing by Population Area).

Table 4-9
Alternative A: Percent of GRSG Habitat and Occupied Leks Affected by Closure to Oil and Gas Leasing by Population Area

Population Area	Habitat Area	Occupied Leks
East Central Idaho	22%	0
Mountain Valleys	1%	7.1
SW Montana	7%	0
North Side Snake	20%	23.5
Southwest Idaho	18%	16.9
South Side Snake	4%	3.0
Sawtooth	9%	0
Bear Lake	22%	23.5
Weiser	1%	0

Source: BLM 2013a

Impacts from Locatable Minerals Management

BLM- and Forest Service-administered lands within the sub-region are generally open to mineral location, causing effects similar to those described in **Section 4.2.2**. There are specific locatable mineral withdrawals for particular ROWs, designated wilderness areas, ACECs, and other administrative needs, but none specific to protecting GRSG habitat. All locatable mineral activities are managed under the regulations at 43 CFR Part 3800 through approval of a Notice of Intent or a Plan of Operations. Mitigation of effects on GRSG and its habitat are identified through the NEPA process approving plans of operation. Goals and objectives for locatable minerals are to provide opportunities to develop the resource while preventing undue or unnecessary degradation of BLM- and Forest Service-administered lands.



Lands closed to locatable mineral entry under the General Mining Act of 1872 comprise 403,700 acres of PPH and 217,700 acres of PGH. Withdrawals within modeled GRSG habitat include 612,000 acres of PPH and PGH combined. Current withdrawals provide an increased level of protection to GRSG seasonal habitats (see Table 4-10, Alternative A: Percent of GRSG Habitat and Occupied Leks Affected by Mineral Withdrawal by Population Area).

Table 4-10
Alternative A: Percent of GRSG Habitat and Occupied Leks Affected by Mineral Withdrawal by Population Area

Population Area	Habitat Area	Occupied Leks
East Central Idaho	5%	8.3
Mountain Valleys	1%	3.0
SW Montana	1%	0
North Side Snake	3%	3.8
Southwest Idaho	2%	1.1
South Side Snake	5%	3.8
Sawtooth	19%	0
Bear Lake	1%	29.4
Weiser	4%	0

Source: BLM 2013a

Impacts from Salable Minerals Management

Within the sub-region, most BLM- and Forest Service-administered lands are open to salable mineral material development. Specific closures of areas to salable mineral materials such as ACECs or crucial or essential wildlife habitat exist throughout the sub-region.

Currently, there are 707,200 acres closed to material sales within PPH and PGH combined. Closed areas provide an increased level of protection to GRSG seasonal habitats from loss, fragmentation and other impacts discussed in **Section 4.2.2** (see Table 4-11, Alternative A: Percent of GRSG Habitat and Occupied Leks Affected by Closure to Salable Minerals by Population Area).

Table 4-11
Alternative A: Percent of GRSG Habitat and Occupied Leks Affected by Closure to Salable Minerals by Population Area

Population Area	Habitat Area	Occupied Leks
East Central Idaho	6%	0
Mountain Valleys	4%	1.8
SW Montana	--	0
North Side Snake	2%	0
Southwest Idaho	20%	17.5
South Side Snake	5%	4.3
Sawtooth	--	0
Bear Lake	1%	0

Table 4-11
Alternative A: Percent of GRSG Habitat and Occupied Leks Affected by Closure to
Salable Minerals by Population Area

Population Area	Habitat Area	Occupied Leks
Weiser	--	0

Source: BLM 2013a

Impacts from Lands Uses and Realty Management

Under Alternative A, all BLM-administered lands are held in retention unless identified for disposal. Disposal criteria typically include considerations of sensitive or crucial resources such as wildlife habitat. While older LUPs in the sub-region do not have specific goals related to GRSG, some newer plans, such as those in Pocatello and Dillon, do have specific measures related to GRSG disturbance and habitat. Land tenure adjustments would be subject to current disposal/exchange/acquisition criteria, which include retaining lands with threatened or endangered species, high quality riparian habitat, or plant and animal populations or natural communities of high interest. While not explicitly stated in some existing RMPs, this would likely include retention of areas with GRSG, and would thus retain occupied habitats under BLM administration. This would reduce the likelihood of habitat conversion to agriculture, urbanization, or other uses that would remove sagebrush habitat. Mitigation is typically developed under the NEPA process, and most ROW and surface developments are subject to limited operation periods or other stipulations in local GRSG conservation strategies.

This alternative designates 1,903,400 acres of ROW avoidance areas within existing PPH/PGH where certain actions would be considered on a case-by-case basis through subsequent site specific NEPA analysis, including the consideration of mitigation measures to reduce impacts. This alternative designates 1,010,900 acres for ROW exclusion within PPH/PGH where all development would be prohibited. Acres identified as available for disposal total 816,600 acres of PPH and PGH under Alternative A. Under this alternative, avoidance areas provide an increased level of protection to habitat and exclusion areas provide an increased level of protection occupied leks in the sub-region. These management actions would be expected to reduce both direct and indirect impacts on GRSG.

Impacts from Renewable Energy Management

In 2005 and 2008, the BLM programmatically amended its LUPs for renewable energy resources through the Wind Energy PEIS and Geothermal PEIS, respectively. These programmatic documents outline BLM- or Forest Service-administered lands available and unavailable for these resource uses and provide direction on processing ROWs and geothermal lease applications, as well as establishing BMPs for conducting these activities on BLM-administered lands. The BMPs contain some general guidance for addressing GRSG and its habitat. LUPs would continue to have different stipulations for geothermal resources and under Alternative A, 9,810,257 acres could be open for wind development.



Under Alternative A, 1,586,060 acres are managed for exclusion and 11,468,180 acres are managed for avoidance of wind energy within existing PPH/PGH. Outside these areas, there would be more impacts on GRSG and their habitat than inside the areas excluded or avoided. Within the sub-region, most areas of BLM- or Forest Service-administered land would remain open for wind development, with 1,586,060 acres of PPH and PGH managed as ROW exclusion and 11,468,180 acres of PPH and PGH managed as ROW avoidance for wind energy. This represents 14 percent of the available PPH and PGH in the planning area being excluded or avoided.

Impacts on GRSG and their habitat from construction and operation of wind energy facilities are discussed in **Section 4.2.2** above. Management under Alternative A identified more acres of GRSG habitat available for wind energy and could lead to more impacts, including habitat degradation, increased predation, and others discussed in **Section 4.2.2**, compared to the action alternatives (Alternatives B through F).

There are 1,586,060 acres of PPH and PGH managed as ROW exclusion and 806,343 acres of PPH and PGH managed as ROW avoidance within modeled nesting habitat. Proposed exclusion and avoidance areas provide an increased level of protection to GRSG seasonal habitats (see Table 4-12, Alternative A: Percent of GRSG Habitat and Occupied Leks Affected by ROW Exclusion or Avoidance by Population Area).

Table 4-12
Alternative A: Percent of GRSG Habitat and Occupied Leks Affected by ROW Exclusion or Avoidance by Population Area

Population Area	Habitat Area			Occupied Leks		
	Exclusion	Avoid with Exclusions	Avoidance	Exclusion	Avoid with Exclusions	Avoidance
East Central Idaho	0.029%	0	6%	0	0	0
Mountain Valleys	0.86%	0	7%	0.6	0	0
SW Montana	--	0	1%	0	0	0
North Side Snake	6%	0	11%	1.9	0	2.3
Southwest Idaho	19%	0	8%	17.5	0	4.0
South Side Snake	2%	0	2%	2.6	0	14.5
Sawtooth	--	0	--	0	0	0
Bear Lake	0.55%	0	0.38%	0	0	0
Weiser	57%	0	40%	13.3	0	0

Source: BLM 2013a

Impacts from Geothermal Energy Development

Within the sub-region, most BLM- and Forest Service-administered lands are open to geothermal development. Specific closures of areas to geothermal such as ACECs or critical or essential wildlife habitat exist throughout the sub-region.

Under this alternative, 10,000,000 acres of PPH and PGH would be designated as open for geothermal development. This alternative leaves the remaining PPH and PGH closed or

limited for geothermal development. Closed areas provide an increased level of protection to GRSG seasonal habitats. (see Table 4-13, Alternative A: Percent of GRSG Habitat and Occupied Leks Affected by Geothermal Energy by Population Area).

Table 4-13
Alternative A: Percent of GRSG Habitat and Occupied Leks Affected by Geothermal Energy by Population Area

Population Area	Habitat Area	Occupied Leks
East Central Idaho	0.37%	0
Mountain Valleys	7%	7.1
SW Montana	4%	0
North Side Snake	20%	23.5
Southwest Idaho	18%	16.9
South Side Snake	4%	3.0
Sawtooth	9%	0
Bear Lake	--	0
Weiser	0.35%	0

Source: BLM 2013a

Impacts from Travel and Transportation Management

Under current management, Travel Management Areas have not been consistently identified in LUPs beyond the basic allocations of open, closed, and limited. Closed areas are comprised of congressionally designated areas, WSAs, and, as directed, some ACECs. Areas limited to existing/designated roads include 2,095,300 acres of Forest Service-administrated lands. Under current management, 905,700 acres are closed to motorized vehicles, 4,831,100 acres are limited to existing routes for motorized vehicles, and 2,097,100 acres are open to all modes of cross country travel (see Table 4-14, Alternative A: Percent of GRSG Habitat and Occupied Leks Affected by Travel Management by Population Area). Lands within the Dillon Field Office are currently restricted to designated routes only.

Table 4-14
Alternative A: Percent of GRSG Habitat and Occupied Leks Affected by Travel Management by Population Area

Population Area	Habitat Area			Occupied Leks		
	Open	Limited	Closed	Open	Limited	Closed
East Central Idaho	56%	32%	12%	0	16.7	0
Mountain Valleys	24%	45%	27%	17.8	42.6	0.6
SW Montana	87%	12%	1%	38.1	4.8	0
North Side Snake	78%	6%	15%	52.3	2.3	16.9
Southwest Idaho	.008%	81%	19%	0	66.1	17.5
South Side Snake	19%	77%	4%	9.4	68.8	2.6
Sawtooth	--	--	--	0	0	0
Bear Lake	--	99%	.56%	0	47.1	0
Weiser	73%	26%	--	13.3	0	0

Source: BLM 2013a



Impacts from Special Designations Management

Under Alternative A, the BLM would continue to manage 59 ACECs within the sub-region (**Table 4-8**). The Forest Service would not manage any ZAs under Alternative A. Existing ACECs likely protect GRSG habitat through use restrictions; these impacts are analyzed under each existing RMP within the planning area. As a result, there would be no additional effects from ACEC or ZA management on GRSG under this alternative.

4.2.1 Impacts Common to All Action Alternatives

While the nature and type of effects listed below from each alternative are similar, the impacts may differ by intensity, extent, or context.

GRSG Habitat Designations

Each action alternative designates GRSG habitat. **Table 4-15**, Acres of Designated Habitat Types in the Idaho and Southwestern Montana Sub-region displays the acres of each habitat designation within each alternative.

Impacts on USFWS Priority Areas for Conservation

In 2013, the USFWS identified GRSG priority areas for conservation (USFWS 2013a). The relation of priority areas for conservation to the GRSG habitat designations in each alternative is shown in **Table 4-16**, Acres of Priority Areas for Conservation within GRSG Analysis Areas in the Idaho and Southwestern Montana Sub-region.

Mitigation

Each action alternative includes a mitigation framework. Mitigation does not eliminate direct project effects, its inclusion in projects at the site-specific level is designed to provide an associated benefit to GRSG and eliminate detrimental cumulative effects.

Alternatives B, C, D, and F address mitigation through a Regional Mitigation Strategy (**Appendix F**). As part of this mitigation strategy, the BLM would establish a Mitigation Implementation Team for each WAFWA MZ. These teams would develop a Mitigation Strategy consistent with the BLM Regional Mitigation Manual Section (1794). The teams will coordinate recommended mitigation strategies between LUP planning areas, WAFWA MZs, and local and state jurisdictions for mitigation consistency. In addition, one of the goals in Alternative D is to provide for no unmitigated loss to occupied GRSG habitat.

Alternative E would utilize an Implementation Task Force to assess project proposals and their mitigation packages to determine whether to recommend an exemption for the governor's consideration. This would primarily affect CHZ areas where additional infrastructure development is restricted with narrow exceptions. Mitigation would be assessed according to Idaho's Mitigation Framework (**Appendix D**).

Table 4-15
Acres of Designated Habitat Types in the Idaho and Southwestern Montana Sub-region

Analysis Area	Alternative B		Alt. C	Alternative D			Alternative E			Alternative F		
	PGMA	PPMA	PPMA	PGMA	PMMA	PPMA	GHZ ¹	IHZ	CHZ ¹	PGMA	PPMA	PRMA
East-Central Idaho	67,400	12,300	79,700	67,300	7,630	48,570	79,700	0	43,900	67,400	12,300	0
BLM	23,500	12,300	35,800	23,400	7,630	4,670	35,800	0	0	23,500	12,300	0
Forest Service	43,900	0	43,900	43,900	0	43,900	43,900	0	43,900	43,900	0	0
Mountain Valleys	538,100	2,327,900	2,866,000	537,900	422,500	1,905,300	553,200	961,600	1,353,500	538,140	2,327,900	0
BLM	197,900	1,876,900	2,074,800	197,900	231,900	1,645,000	181,800	780,800	1,113,100	197,900	1,876,900	0
Forest Service	340,200	451,000	791,200	340,000	190,600	260,300	371,400	180,800	240,400	340,240	451,000	0
Southwest Montana	478,500	626,000	1,104,500	479,300	4,880	617,600	482,500	1,770	617,600	478,500	626,000	0
BLM	243,800	458,700	702,500	243,800	2,740	455,400	245,300	1,260	455,400	243,800	458,700	0
Forest Service	234,700	167,300	402,000	235,500	2,100	162,200	237,200	510	162,200	235,700	167,600	0
North Side Snake	579,900	1,706,500	2,286,500	579,900	246,400	1,460,100	993,100	489,400	805,800	579,900	1,706,500	20,500
BLM	493,800	1,677,800	2,171,600	493,800	228,500	1,449,300	906,300	461,300	805,800	493,800	1,677,800	20,500
Forest Service	86,100	28,700	114,900	86,100	17,900	10,800	86,800	28,100	0	86,100	28,700	0
South Side Snake	597,400	2,110,500	2,707,800	597,300	127,800	1,980,900	557,600	678,200	1,477,000	597,400	2,110,500	1,930
BLM	427,700	1,796,100	2,223,700	427,600	80,700	1,713,600	368,900	514,700	1,345,100	427,700	1,796,100	1,930
Forest Service	169,700	314,400	484,100	169,700	47,100	267,300	188,700	163,500	131,900	169,700	314,400	0
Southwest Idaho	466,400	1,323,700	1,790,100	466,200	520,800	802,500	602,300	595,800	597,000	466,400	1,323,800	36,200
BLM	466,400	1,323,700	1,790,100	466,200	520,800	802,500	602,300	595,800	597,000	466,400	1,323,800	36,200
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0
Bear Lake	5,300	45,120	50,430	5,300	1,130	44,030	7,820	16,500	26,200	5,300	45,120	0
BLM	4,690	43,500	48,200	4,690	740	42,800	6,880	15,200	26,200	4,690	43,500	0

Table 4-15
Acres of Designated Habitat Types in the Idaho and Southwestern Montana Sub-region

Analysis Area	Alternative B		Alt. C	Alternative D			Alternative E			Alternative F		
	PGMA	PPMA	PPMA	PGMA	PMMA	PPMA	GHZ ¹	IHZ	CHZ ¹	PGMA	PPMA	PRMA
Forest Service	610	1,620	2,230	610	390	1,230	940	1,300	0	610	1,620	0
Weiser	135,000	77,200	212,200	55,500	55,500	21,700	212,200	0	0	135,000	77,200	3,700
BLM	135,000	77,200	212,200	55,500	55,500	21,700	212,200	0	0	135,000	77,200	3,700
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0
Sawtooth	21,400	0	21,400	21,400	0	0	21,400	0	0	21,400	0	0
BLM	0	0	0	0	0	0	0	0	0	0	0	0
Forest Service	21,400	0	21,400	21,400	0	0	21,400	0	0	21,400	0	0
Total	2,889,400	8,229,220	11,118,630	2,810,100	1,386,600	6,880,700	3,509,820	2,743,270	4,921,000	2,890,440	8,229,620	62,330

Source: BLM 2013a; Forest Service 2013a

¹Acres in PPMA in Utah and Montana are included with CHZ acres for Idaho. Acres in PGMA in Montana are included in GHZ for Idaho.

Table 4-16
Acres of Priority Areas for Conservation within GRSG Analysis Areas in the Idaho and Southwestern Montana Sub-region

GRSG Analysis Area	Alternative A	Alternative B		Alt. C	Alternative D			Alternative E			Alternative F		
		PGMA	PPMA	PPMA	PGMA	PMMA	PPMA	GHZ	IHZ	CHZ	PGMA	PPMA	PRMA
East-Central Idaho	0	0	0	79,900	67,500	7,620	4,670	79,900	0	0	0	0	0
BLM	0	0	0	35,800	23,400	7,620	4,670	35,800	0	0	0	0	0
Forest Service	0	0	0	44,100	44,100	0	0	44,100	0	0	0	0	0
Mountain Valleys	2,311,200	115,100	2,224,000	2,894,300	538,200	422,500	1,933,200	553,500	962,100	1,380,900	115,100	2,224,000	0
BLM	1,892,300	76,100	1,816,200	2,074,800	197,900	231,900	1,645,000	181,800	780,800	1,113,100	76,100	1,816,200	0
Forest Service	418,900	39,000	407,800	819,500	340,300	190,600	288,200	371,700	181,300	267,800	39,000	407,800	0
Southwest Montana	626,300	330	629,500	1,115,700	487,000	4,890	621,000	490,100	1,780	621,000	330	629,500	0
BLM	458,700	0	458,700	702,500	243,800	2,740	455,400	245,300	1,260	455,400	0	458,700	0
Forest Service	167,600	330	170,800	413,200	243,200	2,150	165,600	244,800	520	165,600	330	170,800	0
North Side Snake	1,290,500	16,680	1,276,900	2,283,100	576,500	246,400	1,460,200	989,500	489,600	805,800	16,680	1,276,900	20,500
BLM	1,265,300	15,700	1,249,600	2,171,600	493,800	228,500	1,449,300	906,300	461,300	805,800	15,700	1,249,600	20,500
Forest Service	25,200	980	27,300	111,500	82,700	17,900	10,900	83,200	28,300	0	980	27,300	0
South Side Snake	1,483,400	81,800	1,401,300	2,274,000	635,900	567,900	1,069,600	791,000	759,100	657,200	81,800	1,401,300	36,200
BLM	1,188,000	61,000	1,126,900	1,790,100	466,200	520,800	802,500	602,300	595,800	597,000	61,000	1,126,900	36,200
Forest Service	295,400	20,800	274,400	483,900	169,700	47,100	267,100	188,700	163,300	60,200	20,800	274,400	0
Southwest Idaho	1,866,100	105,700	1,751,200	2,214,500	427,300	80,700	1,706,500	359,700	514,700	1,345,100	105,700	1,751,200	1,930
BLM	1,866,100	105,700	1,751,200	2,214,500	427,300	80,700	1,706,500	359,700	514,700	1,345,100	105,700	1,751,200	1,930
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0	0
Bear Lake	42,700	690	41,990	50,440	5,300	1,130	44,030	7,810	16,500	26,200	690	41,990	0
BLM	41,400	680	40,700	48,200	4,690	740	42,800	6,870	15,200	26,200	680	40,700	0
Forest Service	1,300	10	1,290	2,240	610	390	1,230	940	1,300	0	10	1,290	0
Weiser	0	0	0	213,170	134,920	55,500	21,700	213,170	0	0	0	0	3,710

Table 4-16
Acres of Priority Areas for Conservation within GRSG Analysis Areas in the Idaho and Southwestern Montana Sub-region

GRSG Analysis Area	Alternative A	Alternative B		Alt. C	Alternative D			Alternative E			Alternative F		
		PGMA	PPMA	PPMA	PGMA	PMMA	PPMA	GHZ	IHZ	CHZ	PGMA	PPMA	PRMA
BLM	0	0	0	212,200	134,900	55,500	21,700	212,200	0	0	0	0	3,710
Forest Service	0	0	0	970	20	0	0	970	0	0	0	0	0
Sawtooth	0	0	0	21,400	21,400	0	0	21,400	0	0	0	0	0
BLM	0	0	0	0	0	0	0	0	0	0	0	0	0
Forest Service	0	0	0	21,400	21,400	0	0	21,400	0	0	0	0	0
Total	7,620,200	320,300	7,324,900	11,110,700	2,870,620	1,379,000	6,856,200	3,470,300	2,743,800	4,836,200	320,300	7,324,900	62,300
BLM	6,711,800	259,200	6,443,300	9,249,700	1,992,000	1,128,500	6,127,900	2,550,300	2,369,100	4,342,600	259,200	6,443,300	62,300
Forest Service	908,400	61,100	881,600	1,896,800	902,000	258,100	733,000	955,800	374,700	493,600	61,100	881,600	0

Source: BLM 2013a; Forest Service 2013a

Adaptive Management

Each action alternative contains an adaptive management strategy. Effects of Alternatives D and E strategies are described in the associated section within the alternative impacts section below.

For Alternatives B, C, and F an adaptive management framework is described; however, specific triggers and resulting actions have not been described. A subsequent adaptive management plan would be developed that:

- Identifies science based soft and hard adaptive management triggers applicable to each population or subpopulation within the planning area
- Addresses how the multiple scale data from the Monitoring Framework Plan (**Appendix E**) would be used to gauge when adaptive management triggers are met
- Charters an adaptive management working group to assist with responding to soft adaptive management triggers

4.2.2 Alternative B

PPMA and PGMA would be designated under Alternative B (Table 4-15). The BLM and Forest Service would apply a maximum three percent disturbance cap to human activities in PPMA. The three percent disturbance cap was recommended in the NTT report and is designed to minimize impacts on GRSG habitat by limiting disturbances in sensitive habitat areas. The agencies would implement numerous conservation measures, as described under the resource headings below, to reduce impacts from human activities in PPMA. Restricting surface-disturbing activities would reduce the likelihood for habitat loss, fragmentation and direct disturbance to GRSG.

Impacts from Vegetation and Soils Management

Under Alternative B, restoration projects would be prioritized in seasonal GRSG habitats thought to be limiting the distribution and abundance of GRSG. Re-establishment of sagebrush cover and desirable understory plants would be the highest priority for restoration efforts. Restoration treatments would incorporate habitat parameters defined by Connelly et al. 2000, Hagen et al. 2007, and state GRSG conservation plans. Native seed would be required for restoration treatments and the establishment of designated seed harvest areas for sagebrush seed collection in fire prone areas. Climate change would be a consideration when proposing native seed collection. In addition, post-restoration management plans would be implemented to ensure long-term persistence of vegetation treatments.

Alternative B management prescriptions for vegetation and soil applied to PPMA and PGMA would provide greater protection and restoration efforts for GRSG habitat compared with those under Alternative A. This is because prescriptions under Alternative B are based on the NTT report recommendations, which were designed specifically for GRSG conservation.



Management under Alternative B would ensure the long-term availability and resiliency of native seed for restoration treatments by establishing native seed harvest areas which incorporate climate change effects. This and post-treatment management plans would improve the success of restoration treatments and the future persistence of GRSG and their habitat.

Vegetation treatment rates would be greater than under Alternative A and would further reduce the impacts of invasive grasses, affecting the population areas where invasive grasses are a substantial threat. Treatment rates would further reduce the impacts of conifer encroachment on the population areas where conifer is a substantial threat. Trends for habitat at 10 and 50 years would improve compared with Alternative A (See **Table 4-2** and **4-3**).

Impacts from Livestock Grazing Management

Under Alternative B, the same number of acres would be open to livestock grazing as under Alternative A. Agencies, in coordination with permittees, would prioritize a number of management actions in PPMAs to incorporate GRSG habitat objectives and management considerations into livestock grazing management, though there would be no change to the acreage open for grazing or available AUMs unless an allotment is retired from grazing. Management actions would include developing specific vegetation objectives based on Ecological Site Descriptions to conserve, enhance, or restore PPMAs habitat and riparian areas would be managed for proper functioning condition. Vegetation treatments to increase livestock forage would only be allowed if they conserved, enhanced or restored GRSG habitat. This alternative would also implement modifications to season of use, numbers of livestock or livestock types to meet seasonal GRSG requirements based on site-specific conditions during permit renewal. New water developments would only be authorized when they would benefit PPMAs. In PPMAs, older developments would also be analyzed in order to determine if modifications of the system are necessary to maintain the integrity of the riparian area. Removal, modification, or marking of fences would be considered under this alternative.

This alternative would provide long-term benefits to GRSG through improvements in both upland and riparian GRSG habitats, and would reduce both short and long-term impacts by reducing direct impacts on GRSG on their seasonal ranges. Compared with Alternative A, Alternative B management actions would further reduce, but would not eliminate, impacts from grazing on GRSG and their habitat.

Impacts from Fire and Fuels Management

Under Alternative B, impacts on GRSG from fire suppression activities would be largely the same as Alternative A. On BLM- and Forest Service-administered lands, 8,229,500 acres of GRSG habitat would be designated as PPMAs, and 2,890,400 acres would be designated as PGMAs. With regard to fuels management projects, GRSG would benefit from the direction provided to protect important aspects of habitat within PPMAs (e.g., canopy cover). Hazardous fuels projects focused on protecting GRSG habitat would be prioritized in these areas. Any fuels treatment in sagebrush would carefully consider if there is a net benefit for GRSG prior to implementation, and fuels treatments would not be allowed in winter habitat.

Not allowing fuel treatment in winter habitat may greatly limit the ability to protect winter habitat from fire.

Prescribed fire in low precipitation areas (less than 12 inches) would generally not be allowed. Post-fire rehabilitation would be conducted using primarily native species, based on availability and adaptation. Rest from grazing would be required for two full growing seasons, unless vegetation recovery dictates otherwise. These activities may decrease the likelihood for fire in GRSG habitats and would help restore GRSG habitat in fire-affected areas. However, relative to the amount of GRSG habitat that is expected to burn based on current trends and is outside the control of the BLM or Forest Service, these actions may provide localized but minimal protections and improvements to the populations in the sub-region where fire contributes significantly to current declining trends.

Impacts from Wild Horse and Burro Management

Under Alternative B, wild horses and burros would be managed at AML on the same number of acres as Alternative A, with gathers prioritized based on PPMAs habitat and emergency environmental issues. HMA plans, when developed or updated, would incorporate GRSG habitat objectives. Implementation of any range improvements would follow the same guidance as identified for livestock grazing in this alternative, including designing and locating new improvements only where they “conserve, enhance, or restore GRSG habitat through improved grazing management.” Design features could include developing or modifying water developments to mitigate for West Nile virus, removing or modifying fences to reduce the chance of bird strikes, or monitoring and treating invasive species associated with range improvements. Additional range improvements would specifically address the needs of GRSG. Compared with Alternative A, Alternative B would prioritize GRSG habitat objectives in HMA plans and base assessment of AMLs on achieving or maintaining GRSG habitat needs.

Impacts from Leasable Minerals Management

Management under Alternative B would close 7,201,522 acres of PPMAs to leasing. Within modeled nesting habitat, there would be 7,201,553 acres of PPMAs. Closed lands would provide an increased level of protection to habitat associated with leks. (See **Table 4-17**, Alternative B: Percent of GRSG Habitat and Occupied Leks Affected by Closure to Oil and Gas Leasing by Population Area).

Table 4-17
Alternative B: Percent of GRSG Habitat and Occupied Leks Affected by Closure to Oil and Gas Leasing by Population Area

Population Area	Habitat Area	Occupied Leks
East Central Idaho	16%	0
Mountain Valleys	81%	16.6
SW Montana	57%	0
North Side Snake	75%	23.8
Southwest Idaho	79%	16.9
South Side Snake	65%	15.0



Table 4-17
Alternative B: Percent of GRSG Habitat and Occupied Leks Affected by Closure to Oil and Gas Leasing by Population Area

Population Area	Habitat Area	Occupied Leks
Sawtooth	9%	0
Bear Lake	91%	23.5
Weiser	36%	0

Source: BLM 2013a

Impacts from Locatable Minerals Management

Management under Alternative B would include withdrawals and processes for management. In addition, PPMAs would be recommended for mineral withdrawal and existing mining claims would be subject to validity exams or buy-out. For these reasons, Alternative B would be more protective of GRSG than Alternative A.

Withdrawn lands include 133,792 acres of PPMAs. Withdrawn lands would provide an increased level of protection to habitat associated with leks (see **Table 4-18**, Alternative B: Percent of GRSG Habitat and Occupied Leks Affected by Mineral Withdrawal by Population Area).

Table 4-18
Alternative B: Percent of GRSG Habitat and Occupied Leks Affected by Mineral Withdrawal by Population Area

Population Area	Habitat Area	Occupied Leks
East Central Idaho	95%	25.0
Mountain Valleys	99%	65.1
SW Montana	99%	52.4
North Side Snake	97%	78.1
Southwest Idaho	98%	83.6
South Side Snake	95%	79.5
Sawtooth	85%	0
Bear Lake	99%	76.5
Weiser	96%	13.3

Source: BLM 2013a

Impacts from Salable Minerals Management

Management under Alternative B would be more protective than Alternative A and would close PPMAs to mineral material sales.

Alternative B closes 7,201,317 acres of PPMAs to mineral material sales. Closed lands would provide an increased level of protection to habitat associated with leks (see **Table 4-19**, Alternative B: Percent of GRSG Habitat and Occupied Leks Affected by Closure to Salable Minerals by Population Area).

Table 4-19
Alternative B: Percent of GRSG Habitat and Occupied Leks Affected by Closure to
Salable Minerals by Population Area

Population Area	Habitat Area	Occupied Leks
East Central Idaho	16%	16.7
Mountain Valleys	81%	64.5
SW Montana	55%	52.4
North Side Snake	75%	76.9
Southwest Idaho	78%	83.1
South Side Snake	65%	72.6
Sawtooth	--	0
Bear Lake	89%	58.8
Weiser	35%	13.3

Source: BLM 2013a

Impacts from Land Uses and Realty Management

Under Alternative B, more habitat would be managed as ROW avoidance (2,903,700 acres) and exclusion (8,263,200 acres) areas than under Alternative A. There is an approximate 559,300-acre difference between Alternatives A and B in terms of acres for disposal in GRSG habitat, with Alternative B having fewer acres available for disposal within PPMA and PGMA compared to the acres in PPH and PGH. PPMAs would be managed as exclusion areas for new ROW permits, with some exceptions. Mitigation and restoration efforts would take place related to existing ROWs in PPMAs. In general habitat, avoidance areas would be set up in relation to new ROWs, collocating ROWs as much as possible. Under Alternative B, PPMAs would be retained unless mitigation or land tenure adjustment would better benefit GRSG habitat. Avoidance areas provide an increased level of protection to modeled nesting habitat associated with leks representing 64 percent of the sub-regional population, and exclusion areas provide an increased level of protection to 30 percent of the sub-regional population. In relation to Alternative A, management under Alternative B would provide fewer direct impacts on GRSG by greatly increasing acreage subject to ROW avoidance and exclusion and by protection and acquisition of important GRSG habitats.

Impacts from Renewable Energy Management

Under Alternative B, impacts from management of lands for wind and solar energy development would be the same as for Alternative A.

Impacts from Wind Energy Development on Sub-populations

Alternative B does not specify acreages to set aside specifically for GRSG conservation. Because no action is specified under Alternative B, the default is that the same action would be taken for Alternative B as proposed for Alternative A.

Within the sub-region, most acres of BLM- and Forest Service-administered land would remain open for wind energy development. 1,501,618 acres of PPMAs and PGMAs would be excluded and 356,010 acres of PPMAs and PGMAs would have ROW avoidance for



wind energy development. This represents 16 percent of the available PPMAs and PGMAs in the planning area being excluded or avoided in the planning area.

In the sub-region, there are 8,263,200 ROW exclusion and 2,903,700 ROW avoidance acres of PPMAs and PGMAs. Proposed ROW exclusion and avoidance areas provide an increased level of protection to habitat associated with leks (see **Table 4-20**, Alternative B: Percent of GRSG Habitat and Occupied Leks Affected by ROW Exclusion or Avoidance by Population Area).

Table 4-20
Alternative B: Percent of GRSG Habitat and Occupied Leks Affected by ROW Exclusion or Avoidance by Population Area

Population Area	Habitat Area			Occupied Leks		
	Exclusion	Avoid with Exclusions	Avoidance	Exclusion	Avoid with Exclusions	Avoidance
East Central Idaho	1%	15%	84%	0	8.3	75.0
Mountain Valleys	1%	80%	18%	0	52.7	6.5
SW Montana	--	55%	43%	0	42.9	19.0
North Side Snake	6%	69%	23%	0	70.0	5.8
Southwest Idaho	19%	59%	14%	0	83.1	0.6
South Side Snake	2%	67%	26%	0.4	75.6	6.0
Sawtooth	--	--	100%	0	0	0
Bear Lake	1%	89%	11%	0	47.1	5.9
Weiser	1%	57%	41%	0	6.7	20.0

Source: BLM 2013a

Impacts from Geothermal Energy Development on Sub-populations

Alternative B does not specify acreage to set aside specifically for GRSG conservation. Because no action is specified under Alternative B, the default is that the same action would be taken for Alternative B as proposed for Alternative A.

Within the sub-region, most BLM- and Forest Service-administered lands are open to geothermal development. Specific closures of areas to geothermal such as ACECs or crucial or essential wildlife habitat exist throughout the sub-region.

Under this alternative, 2,809,300 acres of PPH and PGH would remain open for geothermal development. This alternative leaves the remaining PPH and PGH closed or limited for geothermal development (see **Table 4-21**, Alternative B: Percent of GRSG Habitat and Occupied Leks Affected by Geothermal Energy by Population Area).

Table 4-21
Alternative B: Percent of GRSG Habitat and Occupied Leks Affected by Geothermal Energy by Population Area

Population Area	Habitat Area	Occupied Leks
East Central Idaho	16%	16.7
Mountain Valleys	81%	64.5
SW Montana	57%	52.4
North Side Snake	75%	79.6
Southwest Idaho	79%	83.1
South Side Snake	65%	72.6
Sawtooth	9%	0
Bear Lake	89%	58.8
Weiser	36%	13.3

Source: BLM 2013a

Impacts from Travel and Transportation Management

Under Alternative B, any designated open roads within PPMAs would be managed as limited to existing roads for motorized travel, with the exception of existing closed areas within PPMAs or PGMAs.

Under Alternative B, 900,500 acres would be closed to motorized vehicles, 7,457,200 acres would be limited to existing roads, and 702,800 acres would be open to all modes of cross-country travel (see **Table 4-22**, Alternative B: Percent of GRSG Habitat and Occupied Leks Affected by Travel Management Designations by Population Area).

Table 4-22
Alternative B: Percent of GRSG Habitat and Occupied Leks Affected by Travel Management Designations by Population Area

Population Area	Habitat Area			Occupied Leks		
	Open ¹	Limited	Closed	Open ¹	Limited	Closed
East Central Idaho	--	72%	27%	0	16.7	0
Mountain Valleys	15%	63%	2%	1.8	58.6	0.6
SW Montana	87%	8%	1%	0	42.9	0
North Side Snake	29%	55%	15%	1.2	53.5	16.9
Southwest Idaho	.83%	81%	19%	0	66.1	17.5
South Side Snake	19%	77%	4%	0.4	77.8	2.6
Sawtooth	--	--	--	0	0	0
Bear Lake	--	99%	.56%	0	47.1	0
Weiser	73%	27%	--	6.7	6.7	0

Source: BLM 2013a

¹Acres closed to motorized travel represent existing acres closed. No additional areas would be closed under any alternative.



Impacts from Special Designations Management

Impacts from ACEC management under Alternative B are the same as those described for Alternative A (Table 4-46).

4.2.3 Alternative C

Under Alternative C, the BLM and Forest Service would manage lands to conserve, enhance, and restore sagebrush ecosystems. Management actions would be applied to all occupied GRSG habitats (Table 4-15). Management would focus on removing livestock grazing from occupied habitats, with most other management similar that to Alternative A. The three percent disturbance cap would be the same as under Alternative B, but would apply to all occupied habitat.

Impacts from Vegetation and Soils Management

Given the limited current distribution of suitable GRSG habitat, management plans that strategically protect intact sagebrush and restore impacted areas to enhance existing habitats have the best chance of increasing the amount and quality of GRSG habitat (Manier et al. 2013, p. 171). Management under Alternative C would decrease vegetation treatments needed to increase the amount and quality of GRSG habitat, compared with Alternative A. Habitat trends for 10 and 50 years indicate a slight decline, from increased influence of invasive grasses and continued dominance of conifer, in impacted populations and subpopulations as compared with Alternative A.

Under Alternative C, vegetation management would prioritize the restoration of crested wheat seedings and focus fuels treatments in areas of urban interface and significant existing disturbances, establish monitoring sites, require risk assessments, minimize or eliminating the use of herbicides, address vectors of weed infestations, and require the use of mowers to remove thatch from meadows and to manage existing fuel breaks.

Management prescriptions under Alternative C would focus vegetation treatments in unoccupied GRSG habitats (e.g., crested wheat grass seeding, urban interface, areas where livestock management infrastructure is removed, and other areas of significant disturbances). Broad-scale treatment of invasive grasses would be achieved through natural recovery following the removal of livestock, and juniper removal projects would be limited.

Impacts from Livestock Grazing Management

Under Alternative C, livestock use would be closed on about 11,009,900 acres of PPMA. About 100 percent of the GRSG populations in the sub-region would be affected. Under this alternative, both passive and active restoration would occur, including removal of livestock, roads, water developments, fences, and other range infrastructure that may contribute to GRSG predators or increase habitat for mosquitoes that may carry the West Nile virus. Additional active restoration would include reseeding of roads and crested wheatgrass seedings with native shrubs and grasses.

Under Alternative C, impacts on GRSG would be reduced compared with Alternative A in upland sites. This is because of reduced trampling of nests by livestock during nesting season and increased herbaceous understory vegetation. Under this alternative, the removal of

livestock would result in greater amounts of residual upland cover both in the short term and long term. Reseeding of crested wheatgrass seedings and roads would reduce and minimize impacts from invasive species and increase cover of native plant species. Removal of fencing would reduce the potential of GRSG direct strikes, but in areas where wild horses and burros are present, riparian damage or nest trampling in brood-rearing habitats may increase from horses and burros accessing riparian sites. Removal of troughs and other artificial watering devices would make more water available on the ground for GRSG, their habitats, and other wildlife species. Additional fencing might be required to separate federal no-grazing areas from private ranchlands, leading to increased risk of GRSG strikes along those boundaries.

A complete grazing exclusion can also promote exotic annual grass invasion in some situations. Davies et al. (2009) determined that long-term grazing exclusion followed by fire resulted in exotic annual grass invasion, while fire following moderate levels of grazing did not promote invasion. Moderate grazing made the perennial herbaceous component of the sagebrush plant communities more tolerant of fire (Davies et al. 2009), perhaps due to a reduction in crown litter (Davies et al. 2010a). Targeted grazing may be a critical tool for breaking the exotic annual grass-fire cycle by decreasing the probability of fire disturbance (Diamond et al. 2009). Well-managed livestock grazing may have limited impact (Courtois et al. 2004) or beneficial effects, including decreased risk of conversion to exotic annual grass communities (Davies et al. 2009, 2010a). If management under Alternative C were to reduce ranchers' ability to keep ranches maintained or profitable, they may be sold and developed, causing loss of habitat (Wilkins et al. 2003). Ultimately, the effects of removing grazing in GRSG habitats on a landscape scale are unknown, and it is unclear whether complete removal would improve GRSG habitat or increase population levels.

Impacts from Fire and Fuels Management

Under Alternative C, impacts on GRSG from wildfire suppression and fuels management would be the same as Alternative B; 11,119,900 acres of GRSG habitat would be designated as PPMAs. However, this alternative adopts a passive restoration approach relying on a long-term improvement of habitat conditions by closing PPMAs (11,009,900 acres) to livestock grazing. The alternative does not rely on fuel treatments, such as fuel breaks, to limit the impacts of fire and limits cheatgrass control to natural restoration over chemical treatment, which is restricted. The combination of reducing the direct measures to combat invasive species and limit fire spread would increase the likelihood of continued GRSG habitat decline within the GRSG populations where fire is a threat.

Impacts from Wild Horse and Burro Management

Under Alternative C, wild horses would be managed on the same HMA acreage as under Alternative A. Wild horses would be managed at AML. Use of contraceptives and other population growth suppression to manage wild horse numbers would be similar to actions under Alternative A. Management under Alternative C would not allow the use of helicopters for gathers and would be expected to lead to decreased gather efficiency resulting in increases of wild horses and burros, making it more difficult to manage wild horses and burros at AML. Combined with the removal of some fences during active restoration



processes related to livestock grazing, wild horses would be expected to range over a larger area than under Alternative A and would necessitate the need for increased gather outside of HMA boundaries. To the extent wild horses and burros are present in an area, the increase in access to fenced riparian and upland habitats and the expected temporary increases in horses and burros over AML would reduce food and cover for GRSG over time. These increases also would change water-holding capacities of riparian brood-rearing sites compared with Alternative A.

Impacts from Leasable Minerals Management

Leasable Minerals Management under Alternative C would afford the highest level of protection of all alternatives. Leasable mineral entry would be precluded for all ACECs, including all PPMA, under this alternative. Closed acreage would include all PMUs in the sub-region, protecting all occupied or potentially occupied GRSG habitat and increasing the level of protection to all associated populations and sub-populations.

Management under Alternative C would close PPMA (12,921,100 acres) to oil and gas leasing. Closure would increase protection of all acres of PPMA within habitat associated with leks (see **Table 4-23**, Alternative C: Percent of GRSG Habitat and Occupied Leks Affected by Closure to Oil and Gas Leasing by Population Area).

Table 4-23
Alternative C: Percent of GRSG Habitat and Occupied Leks Affected by Closure to Oil and Gas Leasing by Population Area

Population Area	Habitat Area	Occupied Leks
East Central Idaho	99%	33.3
Mountain Valleys	98%	67.5
SW Montana	98%	52.4
North Side Snake	98%	80.4
Southwest Idaho	92%	83.6
South Side Snake	90%	75.2
Sawtooth	88%	0
Bear Lake	99%	66.7
Weiser	97%	13.3

Source: BLM 2013a

Impacts from Locatable Minerals Management

Management under Alternative C would afford the highest level of protection of all alternatives. Mineral entry withdrawal would be recommended for all ACECs, including all PPMAs, under this alternative, protecting all occupied or potentially occupied GRSG habitat and increasing the level of protection to all associated GRSG populations and sub-populations.

Management under Alternative C would recommend withdrawing PPMAs from locatable mineral entry (10,939,800 acres). Closure would increase protection of all acres of PPMA

within habitat associated with leks (see **Table 4-24**, Alternative C: Percent of GRSG Habitat and Occupied Leks Affected by Mineral Withdrawal by Population Area).

Table 4-24
Alternative C: Percent of GRSG Habitat and Occupied Leks Affected by Mineral Withdrawal by Population Area

Population Area	Habitat Area	Occupied Leks
East Central Idaho	99%	50.0
Mountain Valleys	98%	68.0
SW Montana	98%	52.4
North Side Snake	98%	81.2
Southwest Idaho	92%	84.2
South Side Snake	90%	82.5
Sawtooth	88%	0
Bear Lake	99%	76.5
Weiser	97%	13.3

Source: BLM 2013a

Impacts from Salable Minerals Management

Management under Alternative C would close PPMA to mineral materials sales, providing the highest level of protection among the alternatives (same as Alternative B).

Management under Alternative C would close PPMA to mineral materials sales (10,939,800 acres). Closure would increase protection of all acres of PPMA habitat associated with leks (**Table 4-25**, Alternative C: Percent of GRSG Habitat and Occupied Leks Affected by Closure to Salable Minerals by Population Area).

Table 4-25
Alternative C: Percent of GRSG Habitat and Occupied Leks Affected by Closure to Salable Minerals by Population Area

Population Area	Habitat Area	Occupied Leks
East Central Idaho	99%	33.3
Mountain Valleys	99%	67.5
SW Montana	98%	52.4
North Side Snake	98%	80.0
Southwest Idaho	92%	83.6
South Side Snake	90%	75.2
Sawtooth	88%	0
Bear Lake	100%	58.8
Weiser	97%	13.3

Source: BLM 2013a



Impacts from Land Uses and Realty Management

Under Alternative C, ROW avoidance acres would remain the same as under Alternative A. Within PPMA, there are more acres managed as ROW exclusion under Alternative C (11,165,500 acres) than under Alternative A (1,010,900 acres). This difference would provide protections to more of the sub-regional GRSG population than Alternative A. This difference is due to resource use restrictions in all PPMAs as well as potential ACECs. Required buffers of 5 to 10 miles between occupied habitats and wind development in the alternative are also part of the increased acreage. Acres identified for disposal are less than Alternative A. Under Alternative C, all BLM- and Forest Service-administered lands in proposed ACECs (all PPMAs) and identified restoration and rehabilitation lands would be retained in public ownership. New corridors or facilities including communication towers would only be allowed in non-habitat areas, with existing towers undergoing reviews for adverse effects. All existing transmission or pipeline corridors would be assessed under this alternative, and ROWs would be amended to require features that enhance GRSG habitat security. This alternative would result in fewer direct or indirect impacts on GRSG and their habitats compared with Alternative A because most effects from the land and realty program would be outside of occupied habitat, and effects within current ROWs would be minimized over time. Additionally, this alternative would prioritize more areas for acquisition compared with Alternative A (see **Table 4-26**, Alternative C: Percent of GRSG Habitat and Occupied Leks Affected by ROW Exclusion or Avoidance by Population Area).

Table 4-26
Alternative C: Percent of GRSG Habitat and Occupied Leks Affected by ROW Exclusion or Avoidance by Population Area

Population Area	Habitat Area			Occupied Leks		
	Exclusion	Avoid with Exclusions	Avoidance	Exclusion	Avoid with Exclusions	Avoidance
East Central Idaho	100%	0	0	100	0	0
Mountain Valleys	99%	0	0	100	0	0
SW Montana	100%	0	0	100	0	0
North Side Snake	99%	0	0	98.8	0	0
Southwest Idaho	100%	0	0	100	0	0
South Side Snake	98%	0	0	98.7	0	0
Sawtooth	100%	0	0	0	0	0
Bear Lake	100%	0	0	100	0	0
Weiser	98%	0	0	100	0	0

Source: BLM 2013a

Impacts from Renewable Energy Management

Under Alternative C, management of lands for renewable energy development would be the same as for Alternative B.

Impacts from Wind and Geothermal Energy Development

Under Alternative C, management of lands for wind and geothermal energy development would be the same as for Alternative B.

Impacts from Travel and Transportation Management

Under Alternative C, any designated open areas within PPMAs would be managed as limited for motorized travel with the exception of existing closed areas within PPMAs (see **Table 4-27**, Alternative C: Percent of GRSG Habitat and Occupied Leks Affected by Travel Management Designations by Population Area).

Table 4-27
Alternative C: Percent of GRSG Habitat and Occupied Leks Affected by Travel Management Designations by Population Area

Population Area	Habitat Area			Occupied Leks		
	Open ¹	Limited	Closed	Open ¹	Limited	Closed
East Central Idaho	--	88%	12%	0	16.6	0
Mountain Valleys	0.01%	99%	2%	0	60.4	0.6
SW Montana	--	99%	1%	0	42.9	0
North Side Snake	1%	85%	14%	0.4	54.2	16.9
Southwest Idaho	--	81%	19%	0	66.1	17.5
South Side Snake	0.20%	96%	3.4%	0	78.2	2.6
Sawtooth	--	100%	--	0	0	0
Bear Lake	--	100%	0.01%	0	47.1	0
Weiser	2%	99%	--	0	13.3	0

Source: BLM 2013a

¹Acres closed to motorized travel represent existing acres closed. No additional areas would be closed under any alternative.

Impacts from Special Designations Management

Under Alternative C, the BLM would designate 39 new ACECs (**Table 4-46**). Impacts from management of ACECs are as described under **Section 4.2.2**.

4.2.4 Alternative D

Alternative D would delineate GRSG management areas into PPMA, PMMA, and PGMA within the sub-region (see **Table 4-15**). GRSG habitat in Idaho would include all three management areas, while habitat in Montana includes only PPMA and PGMA. Management areas in Utah would be all PPMA. PPMA would receive the highest degree of protection from impacts caused by resource uses. The goal would be to retain priority GRSG habitats for each WAFWA management zone (Stiver et al. 2006) across the current geographic range of GRSG, including no net unmitigated loss of GRSG habitat. These habitats would have to be large enough to stabilize populations in the short term and to enhance populations over the long term. There would be additional provisions to protect larger intact areas of sagebrush to reduce fragmentation.



Impacts from Vegetation and Soils Management

Vegetation dynamics modeling shows the same general trend under Alternative D compared with Alternative A (see **Table 4-3** and **4-4**).

Under Alternative D, the BLM and Forest Service would prioritize vegetation treatment projects to further improve GRSG abundance and distribution. Factors contributing to higher emphasis include the likelihood of conifer encroachment into GRSG habitat. In addition, the vegetation management tools described in Alternative B would help to reduce encroachment in PPMA and avoid the impacts discussed under **Section 4.2.2**.

Impacts from Livestock Grazing Management

Management under Alternative D includes the same provisions as Alternative B, and also prioritizes land health assessments and managing riparian areas and wet meadows toward PFC in priority and medial habitat. These efforts would improve forage and cover in PPMA and PMMA, to sustain nesting GRSG and protect them from population loss due to predation. Together, these efforts would reduce impacts on GRSG from grazing, such as loss of nesting cover, described in **Section 4.2.2**, compared with Alternative A. Acreage closed to grazing under each alternative is shown in **Table 4-6**.

Impacts from Fire and Fuels Management

Alternative D would implement the same policies as Alternative B to prioritize fire suppression and restoration in sagebrush areas by using native plants and limiting damage to sagebrush habitat from wildfire. Alternative D includes additional measures and planning such as ES&R guidance, preparations in high-risk areas, and additional training for firefighters to better prepare for fire outbreaks in high-risk areas such as sagebrush. Adaptive management under Alternative D would expand more restrictive management from PPMA to less restrictive PMMA based on specific and measurable triggers relating to habitat and population metrics. Overall, Alternative D would reduce impacts from wildfire, similar to Alternative B.

Impacts from Wild Horse and Burro Management

Same as Alternative B.

Impacts from Leasable Minerals Management

Management would be similar to Alternative B but would apply to PPMA, PMMA, and PGMA (see **Table 2-2**). In unleased areas of PPMA and PMMA, no exploration or leasing of fluid minerals would be allowed. PGMA would be open to leasing with stipulations. BMPs and mitigation to protect GRSG would be required in PPMA and PMMA for locatable minerals and nonenergy leasable minerals. Policies for locatable and salable minerals are otherwise the same as under Alternative B. In addition, 26 acres of PPMA and 33 acres of PMMA in East-Central Idaho would be closed to nonenergy leasable mineral leasing in unleased known phosphate lease areas.

Management under Alternative D would close 9,578,700 acres to fluid mineral leasing. Closure would increase protection of habitat associated with leks, which would impact 13 percent of the GRSG population for the sub-region, and by sub-population

(**Table 4-28**, Alternative D: Percent of GRSG Habitat and Occupied Leks Affected by Closure to Oil and Gas Leasing by Population Area). These approaches would reduce the impacts of mining on GRSG habitat, as described in **Section 4.2.2**, in ways similar to Alternative B, by closing over 9 million acres to fluid mineral leasing and protecting additional acreage using timing limitations.

Table 4-28
Alternative D: Percent of GRSG Habitat and Occupied Leks Affected by Closure to Oil and Gas Leasing by Population Area

Population Area	Habitat Area	Occupied Leks
East Central Idaho	16%	25.0
Mountain Valleys	82%	93.5
SW Montana	39%	52.4
North Side Snake	75%	95.8
Southwest Idaho	80%	99.4
South Side Snake	66%	93.6
Sawtooth	9%	0
Bear Lake	63%	76.5
Weiser	36%	80.0

Source: BLM 2013a

Impacts from Locatable Minerals Management

Alternative D would leave areas open for locatable mineral removal and would require operators to include measures to avoid or minimize adverse effects to GRSG and GSG habitat when 3809 Plans and notices are required. BMPs for locatable minerals removal would be applied to priority, medial, and general areas as COAs in plans of operation. As no additional habitat would be withdrawn from mineral entry, there would continue to be effects on GRSG and their habitat, as described in **Section 4.2.2**. Use of BMPs (see Appendix C) under this alternative might reduce these impacts as compared with Alternative A.

Impacts from Salable Minerals Management

Management under Alternative D would close acres to salable minerals removal. Closure would increase protection on habitat associated with leks (see Table 4-29, Alternative D: Percent of GRSG Habitat and Occupied Leks Affected by Closure to Salable Minerals by Population Area).

Table 4-29
Alternative D: Percent of GRSG Habitat and Occupied Leks Affected by Closure to Salable Minerals by Population Area

Population Area	Habitat Area	Occupied Leks
East Central Idaho	14%	33.3
Mountain Valleys	17%	64.5
SW Montana	11%	52.4



Table 4-29
Alternative D: Percent of GRSG Habitat and Occupied Leks Affected by Closure to Salable Minerals by Population Area

Population Area	Habitat Area	Occupied Leks
North Side Snake	29%	76.5
Southwest Idaho	39%	83.1
South Side Snake	25%	72.2
Sawtooth	--	0
Bear Lake	34%	47.1
Weiser	5%	13.3

Source: BLM 2013a

Impacts from Land Uses and Realty Management (Wind and Geothermal Energy)

Under Alternative D, PPMA, PGMA, and PMMA would be designated ROW avoidance (but not exclusion) areas to allow for management flexibility (**Tables 4-4 and 4-5**). In PPMA, the BLM and Forest Service would exclude development of larger transmission facilities (greater than 50 kilovolts); wind and solar developments; commercial geothermal development; nuclear, gas, and oil developments; airports; paved and gravel roads; and landfills. Communication sites would not be excluded. In PMMA and PGMA, the BLM and Forest Service would avoid siting these facilities or would co-locate them when possible in order to minimize impacts (see **Table 4-30**, Alternative D: Percent of GRSG Habitat and Occupied Leks Affected by ROW Exclusion or Avoidance by Population Area).

Table 4-30
Alternative D: Percent of GRSG Habitat and Occupied Leks Affected by ROW Exclusion or Avoidance by Population Area

Population Area	Habitat Area			Occupied Leks		
	Exclusion	Avoid with Exclusions	Avoidance	Exclusion	Avoid with Exclusions	Avoidance
East Central Idaho	--	6%	94%	0	0	16.7
Mountain Valleys	1%	65%	33%	0	54.7	3.6
SW Montana	--	56%	44%	0	42.9	0
North Side Snake	6%	61%	32%	0	68.1	2.7
Southwest Idaho	22%	57%	17%	0	83.1	0.6
South Side Snake	3%	44%	50%	0.4	63.2	16.2
Sawtooth	--	--	100%	0	0	0
Bear Lake	1%	87%	13%	0	47.1	0
Weiser	--	58%	41%	0	6.7	6.7

Source: BLM 2013a

Impacts from Geothermal Energy Development on Sub-populations

Under this alternative, 9,578,700 acres of PPMA, PMMA, and PGMA would be closed to geothermal development. This alternative leaves the remaining GRSG management areas

open or limited for geothermal development (see **Table 4-31**, Alternative D: Percent of GRSG Habitat and Occupied Leks Affected by Geothermal Energy by Population Area).

Table 4-31
Alternative D: Percent of GRSG Habitat and Occupied Leks Affected by Geothermal Energy by Population Area

Population Area	Habitat Area	Occupied Leks
East Central Idaho	1%	0
Mountain Valleys	75%	62.1
SW Montana	50%	47.6
North Side Snake	56%	60.8
Southwest Idaho	73%	79.1
South Side Snake	13%	5.6
Sawtooth	9%	0
Bear Lake	1%	0
Weiser	24%	6.7

Source: BLM 2013a

Impacts from Travel Management

Alternative D would limit motorized travel to existing roads, primitive roads and trails on all BLM-administered lands within field offices containing GRSG habitat unless specific open areas have been previously designated to support recreational activities. None of these open areas would overlap PPMA or PMMA areas. Acres where motorized travel would be limited to roads, existing roads, and trails in entire BLM field offices containing GRSG habitat are shown on **Table 4-32**, Alternative D: Percent of GRSG Habitat and Occupied Leks Affected by Travel Management Designations by Population Area.

Table 4-32
Alternative D: Percent of GRSG Habitat and Occupied Leks Affected by Travel Management Designations by Population Area

Population Area	Habitat Area			Occupied Leks		
	Open ¹	Limited	Closed	Open ¹	Limited	Closed
East Central Idaho	1%	72%	27%	0	16.7	0
Mountain Valleys	15%	82%	2%	0	60.4	0.6
SW Montana	87%	11%	2%	0	42.9	0
North Side Snake	78%	7%	15%	0	54.6	16.9
Southwest Idaho	.0078%	81%	19%	0	66.1	17.5
South Side Snake	18%	77%	4%	0	78.2	2.6
Sawtooth	--	--	--	0	0	0
Bear Lake	--	99%	.56%	0	47.1	0
Weiser	73%	27%	--	0	13.3	0

Source: BLM 2013a

¹ Acres closed to motorized travel represent existing acres closed. No additional areas would be closed under any alternative.



This approach would reduce the likelihood of impacts from infrastructure within GRSG habitat (PPMA, PMMA, and PGMA) and would support comprehensive travel management planning for the entire field office subsequent to this planning effort. Impacts from areas limited to existing roads are as described in **Section 4.2.2**.

Impacts from Adaptive Management

Alternative D includes an adaptive management strategy that would apply the more restrictive measures of PPMA to the PMMA areas if triggers were met. Each trigger is determined by population area, so if a population area meets a trigger then the PMMA areas within that population area would then be managed as PPMA until the habitat or population recovers and the trigger no longer applies. While the management actions described for this alternative are anticipated to reduce impacts on GRSG, an adaptive management approach is included in the event that habitat or populations continue to decline to the point that triggers are met. In that event, the more restrictive measures of PPMA would be applied to PMMA. **Table 4-33**, Alternative D: Percent of GRSG Habitat and Occupied Leks Affected by Adaptive Management Trigger by Population Area describes the percentage of habitat and percentage of occupied leks that would be affected should a trigger be met in a particular population area.

Table 4-33
Alternative D: Percent of GRSG Habitat and Occupied Leks Affected by Adaptive Management Trigger by Population Area

Population Area	Habitat Area	Occupied Leks
East Central Idaho	10%	41
Mountain Valleys	14%	45
Southwest Montana	1%	0
North Side Snake	11%	1
Southwest Idaho	3%	14
South Side Snake	24%	4
Sawtooth	--	0
Bear Lake	2%	0
Weiser	26%	36

Source: BLM 2013a

Impacts from Special Designations Management

Impacts from ACEC management under Alternative D are the same as those described for Alternative A (**Table 4-46**).

4.2.5 Alternative E

Under Alternative E, the BLM and Forest Service would manage to maintain, conserve, enhance, and restore sagebrush ecosystems. CHZ, IHZ, and GHZ would be designated in Idaho, with PPMA and PGMA in Montana and PPMA in Utah (**Table 4-15**). In CHZ and IHZ, the BLM and Forest Service would incorporate management flexibility to permit high value infrastructure with appropriate mitigation and best management practices tailored for the sub-region. Management and impacts are similar to Alternative D, though Alternative E

would require less stringent use restrictions, as the disturbance cap would be applied to fluid mineral development only and would restrict development to 5 percent disturbance. Further, Alternative E would designate the least amount of CHZ compared to the other alternatives' management area designations.

Impacts from Vegetation and Soils Management

Alternative E categorizes management areas within Idaho into CHZ, IHZ, and GHZ. For lands within Utah, management areas are categorized as PPMA, and Montana management areas would be the same as Alternative A (see **Table 4-14**). CHZ would receive the highest degree of protection and management would focus on the maintenance and enhancement of habitats, populations, and connectivity. In important habitat these goals would coexist with high-value infrastructure projects.

Vegetation dynamics modeling shows the same trend under Alternative E compared with Alternative D; even though habitat condition trends appear to be slightly downward after 50 years, the model projections still show that habitat is meeting desired conditions.

Alternative E would maintain the policies described under Alternative A, along with additional provisions to protect CHZ, IHZ, and GHZ. These habitats would be managed to prevent invasion. Invasive plants threatening GRSG habitat would be eradicated or controlled in CHZ and IHZ. Invasive plants would be monitored for three years following a fire. The policies under Alternative E would reduce the impacts from invasive plants in these habitats to a limited degree compared with Alternative A, though current management already addresses this threat.

Under Alternative E, the BLM and Forest Service would prioritize the removal of conifers. This would be accomplished through methods appropriate for the terrain and most likely to facilitate GRSG population and habitat recovery in core and important habitat through methods determined appropriate for the terrain at the site-specific level. In addition, as described in **Section 4.2.6**, CHZ, IHZ, and GHZ would be managed to prevent invasion.

The policies under Alternative E would do more to reduce the impacts from conifer encroachment described under **Section 4.2.2** compared with Alternative A.

Table 4-34, Alternative E: Percent of GRSG Habitat Designations and Occupied Leks within each Conservation Area, describes the acres of CHZ, IHZ and GHZ and occupied leks within each conservation area.

Table 4-34
Alternative E: Percent of GRSG Habitat Designations and Occupied Leks within each Conservation Area

Population Area	Habitat Area			Occupied Leks		
	CHZ	IHZ	GHZ	CHZ	IHZ	GHZ
Mountain Valleys	41%	32%	27%	64.5	31.8	3.6
Desert	41%	17%	43%	73.3	11.1	15.6
West Owyhee	60%	23%	17%	51.8	39.6	8.6



Table 4-34
Alternative E: Percent of GRSG Habitat Designations and Occupied Leks within each Conservation Area

Population Area	Habitat Area			Occupied Leks		
	CHZ	IHZ	GHZ	CHZ	IHZ	GHZ
Southern	29%	33%	38%	82.4	16.9	0.7

Source: BLM 2013a

Impacts from Livestock Grazing Management

Management under Alternative E would add GRSG guidelines to grazing management plans in core and important habitats. Land health assessments would be prioritized in areas with declining GRSG populations, subject to existing legal requirements, and management changes would be tailored to specifically address GRSG habitat objectives. In core areas, grazing plans could be altered by enhancing grazing in areas with lower habitat value. Acreage closed to grazing is shown in **Table 4-6**. These efforts would reduce impacts from grazing on GRSG, relative to Alternative A.

Impacts from Fire and Fuels Management

Alternative E would focus resources to reduce wildfire in sagebrush areas. It would prioritize fire suppression in CHZ, IHZ, and GHZ and would maintain fuel breaks in core and important habitat. Fuels treatments would protect existing sagebrush ecosystems. Fire response times to CHZ and IHZ would be reduced to limit fire damage. Alternative E includes an adaptive management strategy based on population and habitat triggers for each conservation area. These policies may limit the prevalence of wildfire in sagebrush areas and would reduce damage to GRSG habitat; impacts are similar to those described for Alternative B.

Impacts from Wild Horse and Burro Management

Same as Alternative A.

Impacts from Leasable Minerals Management

Alternative E would designate all habitats as open to oil and gas leasing subject to CSU and TL stipulations, as shown in **Table 4-34**. In CHZ in Idaho, Alternative E would stipulate that the Idaho BLM State Director must authorize oil and gas development. Development would be allowed in important habitat if it would not cause a decline in GRSG populations. The policy does not state how such an assurance would be provided in advance of development. Impacts on GRSG from energy development would be reduced, relative to Alternative A.

Management under Alternative E would close 2,118,900 acres to oil and gas leasing. Closure would increase protection on habitat associated with leks (Table 4-35, Alternative E: Percent of GRSG Habitat and Occupied Leks Affected by Closure to Oil and Gas Leasing by Population Area).

Table 4-35
Alternative E: Percent of GRSG Habitat and Occupied Leks Affected by Closure to Oil and Gas Leasing by Population Area

Population Area	Habitat Area	Occupied Leks
East Central Idaho	1%	0
Mountain Valleys	7%	7.1
SW Montana	4%	0
North Side Snake	20%	23.5
Southwest Idaho	18%	16.9
South Side Snake	4%	3.0
Sawtooth	9%	0
Bear Lake	22%	23.5
Weiser	1%	0

Source: BLM 2013a

Impacts from Locatable Minerals Management

Same as Alternative A.

Impacts from Salable Minerals Management

Same as Alternative A.

Impacts from Land Uses and Realty Management (Wind Energy)

Under Alternative E, CHZ and IHZ would be identified as ROW avoidance areas (**Tables 4-4 and 4-5**). The BLM and Forest Service would co-locate new ROWs or SUAs with existing infrastructure. They would aim to remove, bury, or modify existing power lines in these areas when possible. In important habitat areas, new infrastructure could be built if habitat protection criteria were met. In CHZ, no new infrastructure would be permitted, except in-place upgrades. (**Table 4-36**, Alternative E: Percent of GRSG Habitat and Occupied Leks Affected by ROW Exclusion or Avoidance by Population Area).

Table 4-36
Alternative E: Percent of GRSG Habitat and Occupied Leks Affected by ROW Exclusion or Avoidance by Population Area

Population Area	Habitat Area			Occupied Leks		
	Exclusion	Avoid with Exclusions	Avoidance	Exclusion	Avoid with Exclusions	Avoidance
East Central Idaho	1%	1%	6%	0	0	0
Mountain Valleys	1%	8%	1%	0	41.4	18.9
SW Montana	--	--	1%	0	0	0
North Side Snake	6%	19%	1%	0.8	50.8	8.8
Southwest Idaho	19%	27%	8%	0	69.0	14.1
South Side Snake	2%	2%	2%	0.4	41.4	32.1
Sawtooth	--	--	--	0	0	0
Bear Lake	1%	1%	1%	0	29.4	17.6
Weiser	57%	63%	41%	13.3	0	0

Source: BLM 2013a



Impacts from Geothermal Energy

Same as Alternative A.

Impacts from Travel Management

Alternative E would prioritize travel and transportation planning to minimize impacts on GRSG from road travel. It also would reduce the risk of wildfire from cross-country motorized travel because motorized vehicles would be restricted to existing routes in CHZ and IHZ. Timing and seasonal restrictions would be applied to activities known to disturb nesting GRSG while travel management planning is underway. Impacts from roads and ROWs in CHZ and IHZ would be reduced, compared with Alternative A. Impacts from road construction and use in collocated areas and GHZ are similar to Alternative A. **Table 4-37**, Alternative E: Percent of GRSG Habitat and Occupied Leks Affected by Travel Management Designations by Population Area, describes the percent of habitat and occupied leks affected by travel management decisions in this alternative.

Table 4-37
Alternative E: Percent of GRSG Habitat and Occupied Leks Affected by Travel Management Designations by Population Area

Population Area	Habitat Area			Occupied Leks		
	Open ¹	Limited	Closed	Open ¹	Limited	Closed
East Central Idaho	56%	32%	12%	0	16.7	0
Mountain Valleys	24%	45%	27%	17.8	42.6	0.6
SW Montana	87%	12%	1%	38.1	4.8	0
North Side Snake	78%	6%	15%	52.3	2.3	16.9
Southwest Idaho	.008%	81%	19%	0	66.1	17.5
South Side Snake	19%	77%	4%	9.4	68.8	2.6
Sawtooth	--	--	--	0	0	0
Bear Lake	--	99%	.56%	0	47.1	0
Weiser	73%	26%	--	13.3	0	0

Source: BLM 2013a

¹Acres closed to motorized travel represent existing acres closed. No additional areas would be closed under any alternative.

Impacts from Adaptive Management

As described in Chapter 2, Alternative E includes an adaptive management strategy composed of soft and hard triggers that are based on population and habitat changes. Each trigger is determined by conservation area, so the strategy is more locally responsive than if triggers were determined on a sub-regional or statewide basis. When a conservation area meets a soft trigger there is no required adaptive response. When a hard trigger is met, the IHZ areas within that conservation area would be managed according to the CHZ regulations primarily impacting the ability to consider infrastructure projects until the habitat or population recovers and the trigger no longer applies. The Implementation Task Force would be engaged in situations where a soft trigger is met or when the cause of meeting the hard trigger is related to wildfire or invasive species or to analyze the secondary threats to determine the appropriate management response. The triggers are based on lek monitoring

completed and compiled by IDFG on an annual basis and on habitat change. **Table 4-38**, Alternative E: Percent of GRSG Habitat and Occupied Leks Affected by Adaptive Management Trigger by Population Area, describes the percentage of habitat and percentage of occupied leks that would be affected should a trigger be met in a particular population area.

Table 4-38
Alternative E: Percent of GRSG Habitat and Occupied Leks Affected by Adaptive Management Trigger by Population Area

Population Area	Habitat Area	Occupied Leks
East Central Idaho	--	0
Mountain Valleys	33%	4
SW Montana	0%	0
North Side Snake	21%	5
Southwest Idaho	22%	3
South Side Snake	32%	9
Sawtooth	--	0
Bear Lake	33%	1
Weiser	--	0

Source: BLM 2013a

Impacts from Special Designations Management

Impacts from ACEC management under Alternative E are the same as those described for Alternative A (**Table 4-8**).

4.2.6 Alternative F

Management under Alternative F would be largely similar to that described for Alternative B, though with more stringent guidance and restrictive management in sagebrush ecosystems. PPMA, PGMA and PRMA would be designated (**Table 4-15**). Impacts from implementing the maximum three percent disturbance cap are similar to those described for Alternative B; however, under Alternative F, all surface disturbances (including human disturbance and fire) would count toward this cap. This would further reduce the acreage of vegetation that would be removed or fragmented within all occupied habitat over the long term.

Impacts from Vegetation and Soils Management

Management under Alternative F generally would repeat management actions described under Alternative B with exceptions such as reduced treatment of invasive conifer.

Management under Alternative F would provide about the same level of protection as Alternative B or slightly less. Habitat trends for 10 and 50 years would improve compared with Alternative A and would be similar to Alternative B.

Alternative F would maintain the policies described under Alternative A, along with additional provisions to limit invasive weed spread. It would restrict activities that spread



invasives and would ensure the health of vegetation and soil in GRSG habitat. Alternative F also includes post-fire treatment of invasives. Alternative F would prioritize restoration, including reducing invasive plants, as described under Alternative B. These policies would reduce impacts from invasive plants, compared to Alternative A, to a limited degree, though current management already addresses this threat.

Impacts from Livestock Grazing Management

Management under Alternative F would retain the same number of acres open and the same number of acres closed to livestock grazing as found under Alternative A and, therefore, would affect the same percentage of the sub-region's GRSG population. However, management under Alternative F would be more restrictive than Alternative A, with a 25 percent reduction of grazing in each population area and new water developments using spring or seep sources restricted within GRSG habitat. In addition, all prescriptions related to livestock management would apply to all GRSG habitats.

Alternative F includes a reduction in AUMs calculated by applying a 25 percent reduction to the three-year average of billed use. Management under Alternative F would also require that water developments be analyzed and modified or removed if they are found to be impacting a riparian area. Similar modification or removal standards would be applied to other existing range developments such as fences. No salt or other supplements would be allowed. Ensuring riparian areas are at PFC would be the same as for Alternative A. Compared with Alternative A, management under Alternative F would provide more indirect benefits to GRSG. This is because it would increase upland and riparian nesting and brood-rearing habitat amount and quality by reducing by 25 percent livestock grazing each year. Also, it would remove certain livestock-related structures such as fences.

Impacts from Fire and Fuels Management

Same as Alternative B.

Impacts from Wild Horse and Burro Management

Same as Alternative A.

Impacts from Leasable Minerals Management

Management under Alternative F would close PPMAs and PGMA's to fluid mineral leasing. Quantification is the same as in Salable Mineral Materials, Alternative C.

Impacts from Locatable and Salable Minerals Management

Impacts from locatable minerals management would be the same as for Alternative B.

Impacts from salable minerals management would be the same as for Alternative A.

Impacts from Land Uses and Realty Management

Under Alternative F, all PGMA's would be managed as avoidance areas for new ROWs and all PPMAs habitats would be managed as ROW exclusion for new permits with exceptions for co-location of projects within existing footprints and valid, existing rights. ROW avoidance acreage would impact about the same amount of modeled sub-regional GRSG

population as Alternative A. Under this alternative, 310,000 acres would be managed as ROW exclusion. ROW exclusion would protect over 700,000 fewer acres of GRSG habitat than under Alternative A. Management under Alternative F would also include actions to reclaim or modify existing ROWs that may impact GRSG directly (e.g., fences) or indirectly benefit their habitat (e.g., restoring a non-used road). Management under Alternative F would retain public ownership of PPMAs where it benefitted overall GRSG habitat and propose priority habitat for mineral withdrawal. Management under Alternative F would be expected to provide greater direct protections to GRSG than Alternative A due to the larger number of acres under Alternative F being in the ROW exclusion category. Indirect impacts on habitat would be expected to also be less than Alternative A.

Impacts from Renewable Energy Management

Impacts from Wind Energy Development

Same as Alternative B. Under Alternative F, wind energy projects would not be sited within occupied GRSG habitat or within five miles of an active lek. This would result in 4,737,377 acres managed as ROW exclusion.

Impacts from Geothermal Energy Development

Same as Alternative B.

Impacts from Travel and Transportation Management

Same as Alternative B.

Under Alternative F, the BLM would designate 17 or 18 new ACECs and the Forest Service would designate 12 new ZAs (**Table 4-8**). Impacts from management of ACECs are as described under **Section 4.2.2**, and impacts from ZAs are expected to be similar.

4.3 Vegetation

4.3.1 Methods and Assumptions

Indicators

Indicators of impacts on vegetation are as follows:

Upland Vegetation

- Acres and condition of vegetation communities
- Extent of fragmentation

Riparian and Wetland

- Acres and condition of riparian and wetland vegetation

Noxious Weeds and Invasive Species

- Change in the likelihood for noxious weed or invasive species introduction or spread
- Change in the estimated acres of conifer encroachment



Assumptions

The analysis includes the following assumptions:

- All plant communities would be managed to achieve a mix of species composition, cover, and age classes across the landscape, except in site-specific situations where nonnative plantings are used to defer livestock grazing of native vegetation.
- The degree of impact attributed to any one disturbance or series of disturbances would be influenced by several factors. These are location in the watershed; the type, time, and degree of disturbance; existing vegetation; precipitation; and mitigating actions applied to the disturbance.
- Noxious and invasive weeds would continue to be introduced and spread as a result of ongoing vehicle traffic in and out of the planning area, recreation, wildfire, wildlife and livestock grazing and movements, and surface-disturbing activities.
- Activities that would disturb soils could cause erosion, topsoil loss, and soil compaction, which could affect the ability of vegetation to regenerate. Further, surface-disturbing activities could increase dust, which could cover vegetation and impair plant photosynthesis and respiration. Resulting impacts could include lowered plant vigor and growth rate, altered or disrupted pollination, and increased susceptibility to disease.
- Ecological health and ecosystem functioning depend on vegetative cover, species diversity, nutrient cycling and availability, water infiltration and availability, and percent cover of weeds.
- Climate fluctuation would continue to influence the health and productivity of plant communities annually.

Short-term effects would occur over two years or less, and long-term effects would occur over longer than two years.

4.3.2 Nature and Type of Effects

GRSG rely on sagebrush ecosystems for all aspects of their life cycle. Typically, a range of sagebrush community composition within the landscape, including variations in subspecies composition, codominant vegetation, shrub cover, herbaceous cover, stand age, are needed to meet seasonal and interseasonal requirements for food, cover, nesting, and wintering habitats. The landscape required for GRSG may be up to 40 square miles. Thus, conserving and managing GRSG is as much about the ecology, management, and conservation of large, intact sagebrush ecosystems as it is about the dynamics and behaviors of the populations themselves (Manier et al. 2013, p. 7).

Historically, sagebrush-dominated vegetation was one of the most widespread habitats in the country, but its expanse has been fragmented, lost, or altered by invasive plants and human disturbance (NTT 2011, p.4). Protection of GRSG habitat would involve restrictions and

limitations on activities that contribute to the spread of invasive species, fire, and other surface disturbance. It also would involve management of vegetation to promote healthy sagebrush and understory vegetation to support GRSG.

Vegetation Management and Habitat Protection

In addition to landscapes with large, intact patches of sagebrush, GRSG require high-quality habitat conditions. These conditions are a diversity of herbaceous species, vegetative and reproductive health of native grasses, and an abundance of sagebrush. These make management important for high condition in seasonally important habitats (Manier et al. 2013, pp. 181-182). Management plans that protect intact sagebrush and restore impacted areas strategically to enhance existing habitats (for example, connectivity of intact sagebrush) have the best chance of increasing the amount and quality of sagebrush cover (Manier et al. 2013, p.183). This is because of the limited distribution of suitable sagebrush habitats and the cost of habitat restoration. Sagebrush-promoting vegetation treatments will enhance native vegetation and overall ecosystem productivity, while reducing the distribution of invasive species and some woody species.

Invasive plants can alter plant community structure and composition, productivity, nutrient cycling, and hydrology. They could competitively exclude native plant populations. In particular, invasive plants can reduce and eliminate vegetation that GRSG use for food and cover, resulting in habitat loss and fragmentation. They also could increase the risk of wildfire caused by the spread of invasive plants such as cheatgrass (*Bromus tectorum*), which has increased the frequency and intensity of fires (Balch et al. 2012). An assortment of nonnative annuals and perennials and native conifers are currently invading sagebrush ecosystems.

Expansion of conifer woodlands, especially juniper (*Juniperus* spp.) present a threat to GRSG because they do not provide suitable habitat; mature trees displace shrubs, grasses, and forbs through direct competition for resources. Juniper expansion is also associated with increased bare ground and increased potential for erosion. Mature trees may offer perch sites for raptors; thus, woodland expansion may also represent expansion of predation threat, similar to perches on power lines and other structures (Manier et al. 2013, pp. 152-154).

Current treatments and active vegetation management typically focus on vegetation composition and structure for fuels management, habitat management, and productivity manipulation. These techniques are used to improve the habitat and forage conditions for ungulates and other grazers, by removing invasive plants or using surface soil stabilization to increase productivity. Locally and regionally, the distribution of these treatments can affect the distribution of GRSG and sagebrush habitats (Manier et al. 2013, pp. 179-185). Vegetation treatments would have short-term effects on vegetation from vegetation removal and disturbance but would result in long-term improvements.

Management of vegetation resources to protect GRSG would alter vegetation communities by promoting increases in sagebrush height and herbaceous cover and vegetation productivity. Treatments designed to prevent encroachment of shrubs, nonnative species or woody vegetation would alter the condition of native vegetation communities. They would



do this by changing the density, composition, and frequency of species within plant communities. The intent of these management programs is to improve rangeland condition and enhance sagebrush ecosystems.

Vegetation manipulation in the riparian zone, such as weed treatments, native plantings, and erosion control in the channel, would improve the condition of the riparian vegetation community. It also would improve individual riparian species and hydrologic functionality to attain PFC. Habitat connectivity for GRSG could be increased through vegetation manipulation designed to restore vegetation, particularly sagebrush overstory cover.

Direct protection of sagebrush habitat to support GRSG would limit or modify uses in this habitat type. Such use restrictions would reduce damage to native vegetation communities and individual native plant species in areas that are important for regional vegetation diversity and quality. Likewise, use restrictions would minimize loss of connectivity and would be more likely to retain existing age class distribution within these specific areas. Use restrictions could also minimize the spread of invasive species by limiting human activities that cause soil disturbance or seed introductions.

Wildland Fire

Wildfires likely played an important role historically in creating a mosaic of areas dominated by herbaceous species (recently disturbed) and mature sagebrush (less-frequently disturbed). Nevertheless, current land use patterns have restricted the system's ability to support natural wildfire regimes. Slow rates of regrowth and recovery of vegetation after disturbances driven, by low water availability and other constraints, coupled with high rates of disturbance and conversion to introduced plant cover, are largely responsible for the accumulating displacement and degradation of the sagebrush ecosystem (Manier et al. 2013, pp. 133-144). Thus, preservation of sagebrush against wildfire and limiting use of prescribed burning is important to preserving GRSG habitat.

Fire can be particularly damaging to some sagebrush ecosystems. Big sagebrush does not resprout after a fire but is replenished by wind-dispersed seed from adjacent unburned stands or seeds in the soil. Depending on the species and the size of a burn, sagebrush can reestablish itself within five years of a burn, but a return to a full pre-burn community cover can take 15 to 30 years (Manier et al. 2013, pp. 133-134).

Fire suppression may be used to maintain habitat for GRSG (NTT 2011, pp. 25-26). When management reduces wildland fire frequency by controlling natural ignitions, the indirect impact is that vegetation ages across the landscape, and early successional vegetation communities are diminished. Fire suppression may preserve the condition of some vegetation communities, as well as habitat connectivity. This is particularly important in areas where fire frequency has increased as a result of weed invasion and where landscapes are highly fragmented. Fire suppression can also lead to increased fuel loads, which can lead to more damaging or larger fires in the long term. Fire also increases opportunities for invasive species, such as cheatgrass, to expand (Brooks et al. 2004); fire suppression can indirectly limit this expansion.

Controlled burning may be prescribed to treat fuel buildup and can assist in the recovery of sagebrush habitat in some vegetation types. Reseeding with native plants and long-term monitoring to ensure the production of GRSG cover and forage plants will assist vegetation recovery (NTT 2011, pp. 25-26).

Lands and Realty

Permitted activities, such as construction of utility ROWs or SUAs, involve vegetation removal. This reduces the condition of native vegetation communities and individual native plant species, alters age class distribution, reduces connectivity, and encourages the spread of invasive species. Construction could compact soils, which would inhibit natural revegetation in areas without reclamation. It also would reduce plant vigor, making plants more susceptible to disease, drought, and insect attack. In most cases soils in reclaimed areas would be ripped and seeded during interim or final reclamation (NTT 2011, pp. 12-13).

Different types of ROWs or SUAs would impact vegetation in different ways. Aboveground linear and underground ROWs or SUAs, such as transmission lines or pipelines, would temporarily remove vegetation during construction, but areas would be reclaimed or restored after construction. Vegetation would be permanently removed for construction of surface linear ROWs or SUAs, such as roads. Furthermore, since aboveground and surface linear ROWs or SUAs may extend for many miles, vegetation communities could be fragmented and the potential may increase for weeds to be introduced or spread. Aboveground ROWs or SUAs and wind energy projects would remove vegetation during the life of the project, often lasting several decades, but areas would be restored after the ROW or SUA is decommissioned.

ROW or SUA exclusion areas would prohibit all development of ROWs or SUAs in areas where they are designated, which would directly protect vegetation from disturbance and removal. In ROW or SUA avoidance areas, the BLM and Forest Service would consider on a case-by-case basis whether a ROW or SUA should be allowed. This flexibility may be advantageous where federal and private landownership areas are mixed and exclusion areas may result in more widespread development on private lands.

Acquisitions, disposals, or land exchanges to reduce the fragmentation of GRSG habitat could improve the BLM and Forest Service's ability to implement management to increase vegetation diversity, ecological health, and land health standards. In addition, retention of federal lands would prevent sagebrush removal associated with land conversion to agricultural or urban uses.

Mineral Resources

While not a large threat in the Idaho and Southwestern Montana Sub-region, mineral development requires construction of roads, well pads, wells and other infrastructure. It also is associated with noise, traffic, and lights that alter, degrade or entirely displace native ecosystems (Manier et al. 2013, pp. 90-104). Surface disturbance associated with mineral development often removes vegetation, reduces the condition of native vegetation communities and the connectivity of habitat, and encourages the spread of invasive species (NTT 2011, pp. 19-20). Vegetation is typically removed for a period of time during the



course of mining. When mining is completed, the areas are reclaimed using seed mixes chosen by the BLM or Forest Service. The remaining vegetation could have reduced vigor or productivity due to mechanical damage, soil compaction, and dust. Impacts would not occur in areas closed to mineral leasing or development.

Recreation

Recreation in GRSG habitat can be benign, but casual use at excessive levels may degrade sagebrush vegetation from such activities as camping, bicycling, OHV riding, and hunting. Potential impacts from casual recreation include trampling, soil compaction, erosion, invasive plant spread, and fugitive dust generation (Knick et al. 2011). Recreation can also increase the potential for wildfire caused by invasive plant spread or human error (Knick et al. 2011). Most impacts occur in easily accessible areas and in areas open to cross-country travel, particularly motorized use. Restrictions on recreation in GRSG habitat would limit damage to the vegetation communities that comprise this habitat by directly reducing vegetation disturbance from trampling, motorized vehicles, dust, and spread of invasive species. Such restrictions could involve seasonal area closures or limitations on the number of users or types of uses permitted, particularly OHV use (NTT 2011, p. 12).

There would likely be negligible impacts on vegetation from management associated with recreation under all alternatives.

Travel and Transportation

Road construction divides and fragments vegetation and causes erosion and nutrient leaching. The use of roads creates soil compaction and allows the spread of human disturbance, including wildfire and invasive plant species (USFWS 2010a, pp. 19-21; Manier et al. 2013, pp. 71-90). Invasive species can outcompete sagebrush and other vegetation essential for GRSG survival. Invasives also increase wildfire frequency, further contributing to loss of habitat (Balch et al. 2012).

The more areas that are seasonally or permanently closed to off-road motorized vehicle use, the fewer impacts on vegetation from surface disturbance. Vehicle and human trampling of vegetation, soil compaction, and spread of dust and weeds would be expected.

Livestock Grazing

Livestock grazing is the most widespread land use across the sagebrush areas (Connelly et al. 2004, pp. 7-29). Livestock grazing can affect soils, vegetation health, species composition, and water and nutrient availability by consuming vegetation, redistributing nutrients and seeds, trampling soils and vegetation, and disrupting microbial systems (Connelly et al. 2004 Ch. 7; NTT 2011, p. 14).

Livestock grazing has been described as a diffuse form of disturbance that exerts repeated pressure over many years on a system; unlike point sources of disturbance (e.g., fires). Thus, effects of grazing are not likely to be detected as disruptions but as differences in the processes and functioning of the sagebrush, riparian, and wetland systems.

Grazing effects are not distributed evenly because historic practices, management plans and agreements, and animal behavior all lead to differential use of the range (Manier et al. 2013, pp. 157-168). Livestock often use riparian and wetland areas for water and shade, which could reduce riparian community condition and hydrologic functionality. Properly managed grazing could also reduce litter and fine-fuel loading, which could reduce fire size and intensity.

Water developments, roads, and structural range improvements associated with livestock grazing would remove vegetation over the long term and could introduce weeds to rangelands. Livestock may congregate around water developments, compacting soil and trampling nearby vegetation, including shoreline and riparian areas, and making reestablishment of native vegetation difficult in the surrounding area.

At unsustainable levels, grazing can lead to loss of vegetation cover, reduced water infiltration rates and nutrient recycling, decreased plant litter and water quality, and increased bare ground and soil erosion (Manier et al. 2013, pp. 157-159). Land health evaluations are used to assess rangeland condition and help to identify where changing grazing management would be beneficial.

Management of grazing systems that aim to protect sagebrush and riparian ecosystems would enhance vegetation by allowing more plant growth and reducing trampling and introduction of exotic species. Conversely, livestock grazing concentrated in certain areas would increase surface-disturbing impacts in those areas.

Special Designations

Special designations (e.g., ACECs, Wilderness, and WSAs) and other conservation measures may be established to protect vegetation in GRSG habitat as a relevant or important value. While existing ACECs, Wilderness, WSAs and other special designations do not have GRSG habitat as a relevant or important value, some incidental protection may be conferred to vegetation in existing ACECs by restricting resource uses intended to protect other values.

4.3.3 Impacts on Vegetation Common to All Alternatives

The nature and type of impacts described below are common to all alternatives, but the context and intensity may vary by alternative.

Under all alternatives, the Integrated Vegetation Management Handbook policies would be followed and would provide guidance on which treatments and chemicals can be used. Applying these policies would improve vegetation management in sagebrush habitat, thereby likely improving vegetation conditions in these areas.

In general, impacts from recreation are similar among all alternatives, as dispersed casual recreation would continue throughout the planning area.

There would be no impacts common to all alternatives from lands and realty management, habitat restoration and vegetation management, wildland fire management, mineral resource management, livestock grazing management, or ACEC management.



4.3.4 Alternative A

While GRSG may be protected under existing provisions of some LUPs, in general, Alternative A relies on management guidance that does not reflect the most up-to-date science regarding GRSG. Some of the older land use plans lack a landscape-level approach to land planning.

There is no consistently applied vegetation management across all land use plans, though Idaho and Montana Standards for Rangeland Health incorporate objectives for maintaining, improving, or restoring vegetation communities, particularly sagebrush and riparian and wetland habitats. As a result, there is general direction to preserve and improve vegetation communities; however, discrete human disturbances, such as road construction and mineral and ROW development, would continue. This could result in a number of impacts on vegetation, as described under **Section 4.3.2**.

Impacts from Lands and Realty Management

Under Alternative A, lands and realty management would continue, with some areas identified as ROW avoidance and ROW exclusion (**Table 4-39**, Acres of Sagebrush Vegetation within ROW Avoidance Areas in the Idaho and Southwest Montana Sub-Region, and **Table 4-40**, Acres of Sagebrush Vegetation within ROW Exclusion Areas in the Idaho and Southwest Montana Sub-Region). Impacts on areas chosen for ROWs are similar to those described under Section 4.3.2 and would include loss and degradation of upland vegetation communities, and the potential for increased spread of noxious weeds.

Impacts from Habitat Restoration and Vegetation Management

Under Alternative A, the BLM and Forest Service would continue to incorporate habitat restoration and vegetation objectives in management actions as described in the existing LUPs. This may improve vegetation conditions and increase the amount of native vegetation in areas, depending on the application of existing LUPs across the sub-region. In particular, the BLM and Forest Service would manage for the benefit of vegetation that provides wildlife forage, forbs, and sagebrush. Native species would be used when possible, but not required, allowing for some introduced species in areas where they are necessary for site stabilization. This approach would provide for habitat restoration, reduce noxious weeds, and improve the condition of vegetation communities to the extent possible under existing resource allocations.

Impacts from Wildland Fire Management

Under Alternative A, projects would be designed to minimize the size of wildfires and to prevent the further loss of sagebrush. In addition, prescribed burning may be used in support of resource management objectives, such as restoring grassland or shrubland, reducing conifer encroachment, or increasing age-class variety. As a result, vegetation condition and desired species composition would be improved in certain areas. Further, chemical weed treatments applied following prescribed burns would limit the expansion of weeds or invasive species in the burned area and would facilitate revegetation of native species. Impacts from fire on vegetation, described under **Section 4.3.2**, would continue under Alternative A.

Table 4-39
Acres of Sagebrush Vegetation within ROW Avoidance Areas in the Idaho and Southwest Montana Sub-Region

Vegetation Type	Alt. A	Alternative B		Alternative C	Alternative D			Alternative E			Alternative F		
		PGMA	PPMA	PPMA	PGMA	PMMA	PPMA	GHZ ¹	IHZ	CHZ ¹	PGMA	PPMA	PRMA
Low Sagebrush	5,670	52,500	0	0	61,790	63,660	704,200	13,000	240,300	427,200	52,500	0	2
BLM	1,340	45,900	0	0	55,100	59,900	691,700	8,680	233,900	418,200	45,900	0	0
Forest Service	4,330	6,600	0	0	6,690	3,760	12,500	4,270	6,350	9,020	6,600	0	0
Mixed Sagebrush	178,300	573,100	0	0	613,200	326,600	2,022,200	178,200	746,700	1,510,900	573,100	0	0
BLM	3	305,900	0	0	306,900	175,800	1,693,000	23,400	609,500	1,236,400	305,900	0	0
Forest Service	178,300	267,200	0	0	306,300	150,800	329,200	154,800	137,200	274,500	267,200	0	0
Tall Sagebrush	106,100	625,800	0	0	738,200	502,500	2,621,900	215,100	877,00	1,658,600	625,800	0	20
BLM	20,700	512,600	0	0	605,300	467,400	2,468,900	92,700	787,100	1,574,000	512,600	0	20
Forest Service	85,400	113,200	0	0	132,900	35,100	153,000	122,400	89,900	84,600	113,200	0	0
Total	290,100	1,251,400	0	0	1,413,190	892,760	5,348,300	406,300	1,864,000	3,596,700	1,251,400	0	20
BLM	22,100	864,400	0	0	967,300	703,100	4,853,600	124,800	1,630,500	3,228,600	864,400	0	20
Forest Service	268,000	387,000	0	0	132,900	35,100	153,000	281,500	233,500	368,100	387,000	0	0

Source: BLM 2013a; Forest Service 2013a

¹Acres in PPMA in Utah and Montana are included with CHZ acres for Idaho. Acres in PGMA in Montana are included in GHZ for Idaho.

Table 4-40
Acres of Sagebrush Vegetation within ROW Exclusion Areas in the Idaho and Southwest Montana Sub-Region

Vegetation Type	Alternative A	Alternative B		Alternative C	Alternative D			Alternative E			Alternative F		
		PGMA	PPMA	PPMA	PGMA	PMMA	PPMA	GHZ	IHZ	CHZ	PGMA	PPMA	PRMA
Low Sagebrush	300	9,300	767,800	829,600	0	0	0	25,860	23,330	54,630	9,300	767,800	0
BLM	210	9,240	751,600	806,700	0	0	0	25,800	23,300	54,600	9,240	751,600	0
Forest Service	90	60	16,200	22,900	0	0	0	60	30	30	60	16,200	0
Mixed Sagebrush	58,100	39,000	2,351,000	2,962,000	0	0	0	39,600	16,300	37,600	39,000	2,351,000	0
BLM	0	900	1,869,100	2,175,900	0	0	0	1,350	15,800	2,730	900	1,869,100	0
Forest Service	58,100	37,900	481,900	786,100	0	0	0	38,200	530	34,900	37,900	481,900	0
Tall Sagebrush	1,670	92,900	3,125,400	3,862,200	0	0	0	104,100	112,700	276,900	92,900	3,125,400	70
BLM	1,670	92,900	2,938,200	3,543,600	0	0	0	104,100	112,700	276,900	92,900	2,938,200	70
Forest Service	0	0	187,200	318,620	0	0	0	0	0	0	2	187,200	0
Total	60,070	141,000	6,244,200	7,653,800	0	0	0	169,500	152,400	369,100	141,000	6,244,200	70
BLM	1,670	103,000	5,558,900	6,526,200	0	0	0	131,200	151,800	334,200	103,000	5,558,900	70
Forest Service	58,200	38,000	685,300	1,127,600	0	0	0	38,300	560	34,900	38,000	685,300	0

Source: BLM 2013a; Forest Service 2013a

Impacts from Nonenergy Leasable Minerals Management

Acres of sagebrush closed to nonenergy leasable mineral leasing under Alternative A are shown in **Table 4-41**, Acres of Sagebrush Vegetation Closed to Non-energy Leasable Mineral Leasing in the Idaho and Southwest Montana Sub-Region¹. Impacts from nonenergy leasable development on vegetation, including loss and degradation of upland vegetation and increased potential for invasive plant spread, as described under **Section 4.3.2**, would continue to occur in areas open to leasing and development.

Impacts from Locatable Minerals Management

Impacts from locatable mineral development on vegetation, as described under **Section 4.3.2**, would continue to occur in areas open to development.

Impacts from Salable Minerals Management

Acres of sagebrush closed to mineral material disposal under Alternative A are shown in **Table 4-42**, Acres of Sagebrush Vegetation Closed to Mineral Materials Disposal in the Idaho and Southwestern Montana Sub-region¹. Acres are not available for Forest Service-administered lands. Impacts from salable mineral development on vegetation, as described under **Section 4.3.2**, would continue to occur in areas open to development.

Impacts from Fluid Minerals Management

Acres of sagebrush closed to fluid mineral leasing under Alternative A are shown in **Table 4-43**, Acres of Sagebrush Vegetation Closed to Fluid Mineral Leasing in the Idaho and Southwestern Montana Sub-region. Seasonal timing restrictions and lek buffers may be applied in certain areas, as described in the existing LUPs, to reduce impacts from mineral leasing or development, but these stipulations would not be applied consistently across the planning area. Impacts from fluid mineral development on vegetation, as described under **Section 4.3.2**, may occur in areas open to leasing and development.

Impacts from Travel and Transportation Management

Impacts from OHV use would continue under Alternative A in areas that would be open to cross-country use and would be reduced in areas limited to existing roads (**Table 4-44**, Acres of Sagebrush Vegetation Limited to Existing Roads in the Idaho and Southwest Montana Sub-Region). Route and trail modifications would be considered on a case-by-case basis. Impacts on vegetation from travel would continue, including damage to upland vegetation, fragmentation, and potential for spread of invasive plants, as described under **Section 4.3.2**.

Impacts from Livestock Grazing Management

Livestock grazing would continue to occur under Alternative A, with no change in acres open or closed to grazing (**Table 4-45**, Acres of Sagebrush Vegetation Closed to Livestock Grazing in the Idaho and Southwestern Montana Sub-region). Rangelands would continue to be managed to conform to the Idaho Standards for Rangeland Health or similar guidelines; thus, vegetation communities would continue to be maintained and improved to some extent across the planning area. Changes and adjustments would be considered on a case-by-case basis and would incorporate grazing standards and guides to evaluate the ability to meet desired conditions. Under current LUPs, riparian and wetland areas would be



Table 4-41
Acres of Sagebrush Vegetation Closed to Non-energy Leasable Mineral Leasing in the Idaho and Southwest Montana Sub-Region¹

Vegetation Type	Alternative A	Alternative B		Alternative C	Alternative D			Alternative E			Alternative F		
		PGMA	PPMA		PGMA	PMMA	PPMA	GHZ	IHZ	CHZ	PGMA	PPMA	PRMA
Low Sagebrush	0	0	0	0	0	0	0	0	0	0	0	0	0
BLM	0	0	0	0	0	0	0	0	0	0	0	0	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0	0
Mixed Sagebrush	0	0	0	0	0	0	0	0	0	0	0	0	0
BLM	0	0	0	0	0	0	0	0	0	0	0	0	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0	0
Tall Sagebrush	0	0	40	160	130	20	20	0	0	0	0	40	0
BLM	0	0	40	160	130	20	20	0	0	0	0	40	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	40	160	130	20	20	0	0	0	0	40	0
BLM	0	0	40	160	130	20	20	0	0	0	0	40	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0	0

Source: BLM 2013a

¹ For unleased known phosphate lease areas that are closed to leasing

Table 4-42
Acres of Sagebrush Vegetation Closed to Mineral Materials Disposal in the Idaho and Southwestern Montana Sub-region¹

Vegetation Type	Alternative A	Alternative B		Alternative C	Alternative D			Alternative E			Alternative F		
		PGMA	PPMA	PPMA	PGMA	PMMA	PPMA	GHZ	IHZ	CHZ	PGMA	PPMA	PRMA
Low Sagebrush	88,500	3,440	766,100	827,000	6,150	3,510	297,800	20	20	10	3,440	766,100	2
Mixed Sagebrush	90,500	7,830	2,328,000	2,932,400	22,200	9,740	531,300	30	40	20	7,830	2,328,000	0
Tall Sagebrush	353,600	65,800	3,080,400	3,760,200	114,900	84,200	1,255,300	40	10	10	65,800	3,080,400	33
Total	532,600	77,100	6,174,400	7,519,600	143,300	102,400	2,100,400	42,900	86,300	401,200	77,100	6,174,400	35

Source: BLM 2013a

¹ Data not available for the Forest Service. Acres in the table represent BLM-administered lands only

Table 4-43
Acres of Sagebrush Vegetation Closed to Fluid Mineral Leasing in the Idaho and Southwestern Montana Sub-region

Vegetation Type	Alternative A	Alternative B		Alternative C	Alternative D			Alternative E			Alternative F		
		PGMA	PPMA	PPMA	PGMA	PMMA	PPMA	GHZ	IHZ	CHZ	PGMA	PPMA	PRMA
Low Sagebrush	1	3,520	766,100	827,000	3,520	63,500	700,600	3,360	24,100	60,000	3,520	766,100	0
BLM	1	3,520	749,900	804,300	3,520	59,800	688,100	3,360	24,100	60,000	3,520	749,900	2
Forest Service	0	1	16,200	22,700	1	3,750	12,500	1	0	0	1	16,200	0
Mixed Sagebrush	330	34,200	2,328,000	2,932,500	30,900	324,600	1,830,000	32,000	13,400	172,700	34,200	2,328,000	34
BLM	240	31,900	1,848,100	2,150,900	29,500	174,100	1,526,100	30,600	13,400	172,700	31,900	1,848,100	0
Forest Service	90	2,300	479,800	781,600	1,400	150,500	303,900	1,430	0	10	23,000	479,800	0
Tall Sagebrush	0	61,500	3,040,300	3,761,100	61,400	485,700	2,552,700	54,700	95,300	426,800	61,500	3,040,300	34
BLM	0	61,200	2,914,200	3,512,300	61,100	460,000	2,452,300	54,400	95,300	426,800	61,200	2,914,200	34
Forest Service	0	320	126,100	248,800	320	25,700	100,400	330	0	0	317	126,100	0
Total	330	99,200	6,134,300	7,520,600	95,800	873,900	5,083,300	90,100	132,800	659,500	119,900	6,134,300	36
BLM	240	96,620	5,512,200	6,467,500	94,120	693,900	4,666,500	88,360	132,800	659,500	96,620	5,512,200	36
Forest Service	90	2,620	622,100	1,053,100	1721	179,950	416,800	1,761	0	10	23,318	622,100	0

Source: BLM 2013a

Table 4-44
Acres of Sagebrush Vegetation Limited to Existing Roads in the Idaho and Southwest Montana Sub-Region

Vegetation Type	Alternative A	Alternative B		Alternative C	Alternative D			Alternative E			Alternative F		
		PGMA	PPMA	PPMA	PGMA	PMMA	PPMA	GHZ	IHZ	CHZ	PGMA	PPMA	PRMA
Low Sagebrush	493,000	47,500	688,300	747,200	58,870	63,150	625,200	52,000	161,980	279,050	58,900	688,300	20
BLM	470,800	40,800	672,800	725,000	52,200	59,400	613,400	44,500	155,600	270,700	52,200	672,800	20
Forest Service	22,200	6,670	15,500	22,200	6,670	3,750	11,800	7,500	6,380	8,350	6,670	15,500	0
Mixed Sagebrush	2,466,300	570,000	2,306,100	2,900,800	594,900	326,100	1,980,000	595,500	635,800	1,231,800	594,700	2,306,100	0
BLM	1,710,000	269,000	1,851,800	2,145,500	293,800	175,500	1,676,300	261,500	498,500	948,800	293,700	1,851,800	0
Forest Service	756,300	301,000	454,300	755,300	301,100	150,600	303,700	334,000	137,300	283,000	301,000	454,300	0
Tall Sagebrush	2,051,900	407,100	2,692,700	3,370,800	677,400	479,000	2,213,600	481,600	563,400	1,000,700	677,400	2,692,700	230
BLM	1,731,600	274,300	2,505,320	3,050,500	544,600	444,700	2,060,600	336,100	438,500	956,500	135,900	215,500	230
Forest Service	320,300	132,800	187,400	320,300	132,800	34,300	153,000	145,500	124,900	44,200	541,500	2,477,200	0
Total	5,011,300	1,024,600	5,687,100	7,018,800	1,331,200	868,300	4,818,800	1,129,100	1,361,180	2,511,550	1,331,000	5,687,100	250
BLM	3,912,400	584,100	5,029,900	5,921,000	890,600	679,600	4,350,300	642,100	1,092,600	2,176,000	481,800	2,740,100	250
Forest Service	1,098,900	440,500	657,200	1,097,800	440,600	188,700	468,500	487,000	268,580	335,550	849,170	2,947,000	0

Source: BLM 2013a; Forest Service 2013a

Table 4-45
Acres of Sagebrush Vegetation Closed to Livestock Grazing in the Idaho and Southwestern Montana Sub-region

Vegetation Type	Alternative A	Alternative B		Alternative C	Alternative D			Alternative E			Alternative F		
		PGMA	PPMA	PPMA	PGMA	PMMA	PPMA	GHZ	IHZ	CHZ	PGMA	PPMA	PRMA
Low Sagebrush	3,620	320	3,310	806,700	320	0	3,310	300	680	2,650	320	3,310	0
BLM	3,620	320	3,310	806,700	320	0	3,310	300	680	2,650	320	3,310	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0	0
Mixed Sagebrush	19,500	6,490	13,030	2,184,640	6,490	0	13,030	6,110	4,290	9,100	6,490	13,030	0
BLM	11,500	380	11,100	2,176,600	380	0	11,100	0	4,290	7,170	380	11,100	0
Forest Service	8,040	6,110	1,930	8,040	6,110	0	1,930	6,110	0	1,930	6,110	1,930	0
Tall Sagebrush	14,800	7,700	7,080	3,543,600	7,710	120	6,960	400	100	14,300	7,710	7,080	0
BLM	14,800	7,700	7,080	3,543,600	7,710	120	6,960	400	100	14,300	7,710	7,080	0
Forest Service	1	0	0	0	0	0	0	0	0	0	0	0	0
Total	37,900	14,520	23,390	6,534,940	14,520	120	23,230	6,800	5,080	26,040	14,520	23,390	0
BLM	29,900	8,410	21,460	6,526,900	8,410	120	21,300	690	5,080	24,110	8,410	21,460	0
Forest Service	8,040	6,110	1,930	8,040	6,110	0	1,930	6,110	0	1,930	6,110	1,930	0

Source: BLM 2013a; Forest Service 2013a

managed to maintain or attain PFC or forest plan standards and guidelines, and rangelands would be managed to attain Rangeland Health Standards. These standards would benefit vegetation condition and limit fragmentation.

Impacts from Special Designations Management

Under Alternative A, the BLM would continue to manage 59 ACECs within the sub-region (**Table 4-46**, Acres of Sagebrush Vegetation within BLM ACECs in the Idaho and Southwestern Montana Sub-region1). The Forest Service would not manage any ZAs under Alternative A. Existing ACECs likely protect vegetation through use restrictions; these impacts are analyzed under each existing RMP within the planning area. As a result, there would be no additional effects from ACEC or ZA management on vegetation under this alternative.

4.3.5 Alternative B

Under Alternative B, the BLM and Forest Service would manage lands to conserve, enhance, and restore sagebrush ecosystems. Direct protection of sagebrush habitat to support GRSG would limit or modify uses in this habitat type, improving the acreage and condition of desired vegetation communities. Restrictions on resource uses such as ROW and mineral development would reduce damage to native vegetation communities and individual native plant species in areas that are important for regional vegetation diversity and quality. Likewise, use restrictions would minimize loss of connectivity and would be more likely to retain existing age class distribution within these areas. Use restrictions could also minimize the spread of invasive species by limiting human activities that disturb soil or introduce seeds.

PPMA and PGMA would be designated (**Table 4-15**). Acres of each vegetation community within GRSG management areas are presented in **Table 4-47**, Acres of Annual Grassland within GRSG Analysis Areas in the Idaho and Southwestern Montana Sub-region through **Table 4-53**, Acres of Perennial Grassland within GRSG Analysis Areas in the Idaho and Southwestern Montana Sub-region, and are split out by GRSG analysis area. These tables demonstrate the differences in the size of GRSG management areas by alternative and the relative differences in the acreage of each vegetation community within these areas. The BLM and Forest Service would apply a maximum three percent disturbance cap to human activities in PPMA. The three percent disturbance cap was recommended in the NTT report and is designed to minimize impacts on GRSG habitat by limiting disturbances in sensitive habitat areas. The agencies would implement numerous conservation measures, as described under the resource headings below, to reduce impacts from human activities in PPMA. Restricting surface-disturbing activities would reduce the likelihood for vegetation removal, degradation, or fragmentation and would maintain the acreage and condition of sagebrush vegetation.



Table 4-46
Acres of Sagebrush Vegetation within BLM ACECs in the Idaho and Southwestern Montana Sub-region¹

Vegetation Type	Alternative A	Alternative B		Alt. C	Alternative D			Alternative E			Alternative F		
		PGMA ¹	PPMA ¹	PPMA	PGMA	PMMA ¹	PPMA	GHZ ¹	IHZ ¹	CHZ ¹	PGMA	PPMA	PRMA ¹
Low Sagebrush	38,200	2,540	35,200	462,300	2,536	830	34,400	1,210	1,330	35,200	2,540	751,500	0
Mixed Sagebrush	105,700	12,700	91,200	405,100	12,700	8,050	83,200	7,050	29,220	67,700	12,800	1,869,100	0
Tall Sagebrush	212,700	56,000	149,400	1,707,400	56,000	9,200	140,100	26,100	20,200	159,100	56,200	2,934,800	20
Total	356,600	71,200	275,800	2,574,800	71,200	18,100	257,700	34,400	50,800	262,000	71,500	5,555,400	20

Source: BLM 2013a

¹ No data available for Forest Service Zoological Areas

Table 4-47
Acres of Annual Grassland within GRSG Analysis Areas in the Idaho and Southwestern Montana Sub-region

Analysis Area	Alternative B		Alternative C	Alternative D			Alternative E			Alternative F		
	PGMA	PPMA	PPMA	PGMA	PMMA	PPMA	GHZ ¹	IHZ	CHZ ¹	PGMA	PPMA	PRMA
East-Central Idaho	80	30	110	80	30	0	110	0	0	75	30	0
BLM	80	30	110	80	30	0	110	0	0	75	30	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0
Mountain Valleys	0	0	0	0	0	0	0	0	0	0	0	0
BLM	0	0	0	0	0	0	0	0	0	0	0	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0
SW Montana	0	0	0	0	0	0	0	0	0	0	0	0
BLM	0	0	0	0	0	0	0	0	0	0	0	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0
North Side Snake	7,180	6,900	13,980	7,150	1,140	5,710	8,560	2,960	4,200	7,180	6,900	20,200
BLM	7,100	6,900	13,900	7,070	1,140	5,710	8,480	2,960	4,200	7,100	6,900	20,200
Forest Service	80	0	80	80	0	0	80	0	0	80	0	0
South Side Snake	4,810	24,610	29,420	4,810	15,700	8,920	6,850	15,110	11,850	4,810	24,610	32,200
BLM	4,700	24,300	29,000	4,700	15,600	8,700	6,640	14,900	11,850	4,700	24,300	32,200
Forest Service	110	310	420	110	100	220	210	210	0	110	310	0
Southwest Idaho	6,540	19,200	25,700	6,500	3,070	16,100	7,410	12,900	7,250	6,540	19,200	1,850
BLM	6,540	19,200	25,700	6,500	3,070	16,100	7,410	12,900	7,250	6,540	19,200	1,850
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0
Bear Lake	0	0	0	0	0	0	0	0	0	0	0	0
BLM	0	0	0	0	0	0	0	0	0	0	0	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0

Table 4-47
Acres of Annual Grassland within GRSG Analysis Areas in the Idaho and Southwestern Montana Sub-region

Analysis Area	Alternative B		Alternative C	Alternative D			Alternative E			Alternative F		
	PGMA	PPMA	PPMA	PGMA	PMMA	PPMA	GHZ ¹	IHZ	CHZ ¹	PGMA	PPMA	PRMA
Weiser	2,720	1,050	3,770	2,700	110	940	3,770	0	0	2,720	1,050	3,250
BLM	2,720	1,050	3,770	2,700	110	940	3,770	0	0	2,720	1,050	3,250
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0
Sawtooth	0	0	0	0	0	0	0	0	0	0	0	0
BLM	0	0	0	0	0	0	0	0	0	0	0	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0
Total	21,330	51,790	72,980	21,240	20,050	31,670	26,700	30,970	23,300	21,325	51,790	57,500
BLM	21,140	51,480	72,480	21,050	19,950	31,450	26,410	30,760	23,300	21,135	51,480	57,500
Forest Service	190	310	500	190	100	220	290	210	0	190	310	0

Source: BLM 2013a; Forest Service 2013a

¹Acres in PPMA in Utah and Montana are included with CHZ acres for Idaho. Acres in PGMA in Montana are included in GHZ for Idaho.

Table 4-48
Acres of Conifer Encroachment within GRSG Analysis Areas in the Idaho and Southwestern Montana Sub-region

Analysis Area	Alternative B		Alternative C	Alternative D			Alternative E			Alternative F		
	PGMA	PPMA	PPMA	PGMA	PMMA	PPMA	GHZ ¹	IHZ	CHZ ¹	PGMA	PPMA	PRMA
East-Central Idaho	270	10	280	270	6	5	280	0	0	270	10	0
BLM	170	10	180	170	6	5	180	0	0	170	10	0
Forest Service	100	0	100	100	0	0	100	0	0	100	0	0
Mountain Valleys	2,340	3,370	5,740	2380	630	2,740	1,880	1,780	2,040	2,380	3,370	0
BLM	840	2,380	3,210	840	220	2,160	480	1,180	1,530	840	2,380	0
Forest Service	1,500	990	2,530	1,540	410	580	1,400	600	510	1,540	990	0
SW Montana	920	430	1,360	930	3	410	940	0	210	930	430	0
BLM	410	210	630	420	0	210	420	0	210	420	210	0
Forest Service	510	220	730	510	3	200	520	0	200	510	220	0
North Side Snake	1,260	2,130	3,380	1,260	350	1,790	1,280	1,290	800	1,260	2,130	0
BLM	510	1,870	2,370	510	180	1,690	540	1,030	800	510	1,870	0
Forest Service	750	260	1,010	750	170	100	740	260	0	750	260	0
South Side Snake	28,020	105,300	133,310	28,070	22,500	82,800	41,380	85,300	940	28,050	105,300	0
BLM	16,150	65,700	81,860	16,200	21,100	44,600	35,900	45,300	600	16,150	65,700	0
Forest Service	11,870	39,600	51,450	11,870	1,400	38,200	5,480	40,000	340	11,900	39,600	0
Southwest Idaho	99,100	108,400	207,400	99,100	5,580	102,500	88,600	68,500	50,400	99,100	108,400	0
BLM	99,100	108,400	207,400	99,100	5,580	102,500	88,600	68,500	50,400	99,100	108,400	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0
Bear Lake	2	14	17	2	1	11	1.4	12	3	2	14	0
BLM	2	12	14	2	1	11	0.4	10	3	2	12	0
Forest Service	0	2	3	0	0	2	1	2	0	0	2	0

Table 4-48
Acres of Conifer Encroachment within GRSG Analysis Areas in the Idaho and Southwestern Montana Sub-region

Analysis Area	Alternative B		Alternative C	Alternative D			Alternative E			Alternative F		
	PGMA	PPMA	PPMA	PGMA	PMMA	PPMA	GHZ ¹	IHZ	CHZ ¹	PGMA	PPMA	PRMA
Weiser	740	110	850	740	110	3	840	0	0	740	110	0
BLM	740	110	850	740	110	3	840	0	0	740	110	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0
Sawtooth	320	0	320	320	0	0	320	0	0	320	0	0
BLM	0	0	0	0	0	0	0	0	0	0	0	0
Forest Service	320	0	320	320	0	0	320	0	0	320	0	0
Total	132,972	219,764	352,657	133,072	29,180	190,261	135,521	156,882	54,393	133,052	219,764	0
BLM	117,922	178,692	296,514	117,982	27,197	151,179	126,960	116,020	53,543	117,932	178,692	0
Forest Service	15,050	41,072	56,143	15,090	1,983	39,082	8,561	40,862	850	15,120	41,072	0

Source: BLM 2013a; Forest Service 2013a

¹Acres in PPMA in Utah and Montana are included with CHZ acres for Idaho. Acres in PGMA in Montana are included in GHZ for Idaho.

Table 4-49
Acres of Crested Wheatgrass within GRSG Analysis Areas in the Idaho and Southwestern Montana Sub-region

Analysis Area	Alternative B		Alternative C	Alternative D			Alternative E			Alternative F		
	PGMA	PPMA	PPMA	PGMA	PMMA	PPMA	GHZ ¹	IHZ	CHZ ¹	PGMA	PPMA	PRMA
East-Central Idaho	190	10	200	190	164	6	200	0	0	190	10	0
BLM	30	10	40	30	4	6	40	0	0	30	10	0
Forest Service	160	0	160	160	160	0	160	0	0	160	0	0
Mountain Valleys	0	0	0	0	0	0	0	0	0	0	0	0
BLM	0	0	0	0	0	0	0	0	0	0	0	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0
SW Montana	0	0	0	0	0	0	0	0	0	0	0	0
BLM	0	0	0	0	0	0	0	0	0	0	0	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0
North Side Snake	42,810	36,990	79,700	42,810	9,270	27,610	69,210	1,340	9,200	42,810	36,990	1
BLM	40,800	36,900	77,600	40,800	9,200	27,600	67,200	1,250	9,200	40,800	36,900	1
Forest Service	2,010	90	2,100	2,010	70	10	2,010	90	0	2,010	90	0
South Side Snake	15,910	27,900	43,810	15,910	18,900	9,000	18,410	22,080	3,320	15,910	27,900	4
BLM	15,500	25,400	40,900	15,500	17,600	7,800	16,800	20,800	3,300	15,500	25,400	4
Forest Service	410	2,500	2,910	410	1,300	1,200	1,610	1,280	20	410	2,500	0
Southwest Idaho	2,500	950	3,490	2,544	80	870	2,340	580	370	2,500	950	0
BLM	2,500	950	3,490	2,544	80	870	2,340	580	370	2,500	950	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0
Bear Lake	0	0	0	0	0	0	0	0	0	0	0	0
BLM	0	0	0	0	0	0	0	0	0	0	0	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0

Table 4-49
Acres of Crested Wheatgrass within GRSG Analysis Areas in the Idaho and Southwestern Montana Sub-region

Analysis Area	Alternative B		Alternative C	Alternative D			Alternative E			Alternative F		
	PGMA	PPMA	PPMA	PGMA	PMMA	PPMA	GHZ ¹	IHZ	CHZ ¹	PGMA	PPMA	PRMA
Weiser	4,480	2,020	6,500	4,480	1,790	230	6,500	0	0	4,480	2,020	0
BLM	4,480	2,020	6,500	4,480	1,790	230	6,500	0	0	4,480	2,020	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0
Sawtooth	0	0	0	0	0	0	0	0	0	0	0	0
BLM	0	0	0	0	0	0	0	0	0	0	0	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0
Total	65,890	67,870	133,700	65,934	30,204	37,716	96,660	24,000	12,890	65,890	67,870	5
BLM	63,310	65,280	128,530	63,354	28,674	36,506	92,880	22,630	12,870	63,310	65,280	5
Forest Service	2,580	2,590	5,170	2,580	1,530	1,210	3,780	1,370	20	2,580	2,590	0

Source: BLM 2013a; Forest Service 2013a

¹Acres in PPMA in Utah and Montana are included with CHZ acres for Idaho. Acres in PGMA in Montana are included in GHZ for Idaho.

Table 4-50
Acres of Low Sagebrush within GRSG Analysis Areas in the Idaho and Southwestern Montana Sub-region

Analysis Area	Alternative B		Alternative C	Alternative D			Alternative E			Alternative F		
	PGMA	PPMA	PPMA	PGMA	PMMA	PPMA	GHZ ¹	IHZ	CHZ ¹	PGMA	PPMA	PRMA
East-Central Idaho	25	10	35	25	8	2	35	0	0	25	10	0
BLM	25	10	35	25	8	2	35	0	0	25	10	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0
Mountain Valleys	7,900	280,200	288,100	7,910	30,440	249,800	9,780	103,910	166,300	7,910	280,200	0
BLM	4,720	266,700	271,400	4,730	27,100	239,600	6,050	99,100	166,300	4,730	266,700	0
Forest Service	3,180	13,500	16,700	3,180	3,340	10,200	3,730	4,810	8,150	3,180	13,500	0
SW Montana	1,740	4,230	5,970	1,760	1	4,230	1,740	1	4,130	1,740	4,230	0
BLM	1,580	4,130	5,710	1,600	1	4,130	1,580	1	4,130	1,580	4,130	0
Forest Service	160	100	260	160	0	100	160	0	100	160	100	0
North Side Snake	3750	65,970	69,680	3750	2,570	63,370	4,500	14,860	50,400	3,750	65,970	0
BLM	740	65,700	66,400	740	2,370	63,300	1,480	14,600	50,400	740	65,700	0
Forest Service	3,010	270	3,280	3,010	200	70	3,020	260	0	3,010	270	0
South Side Snake	1,920	45,060	46,990	1,920	6,050	39,040	9,690	4,550	32,700	1,920	45,060	0
BLM	1,590	43,400	45,000	1,590	5,830	37,600	9,100	3,240	32,700	1,590	43,400	0
Forest Service	330	1,660	1,990	330	220	1,440	590	1,310	90	330	1,660	0
Southwest Idaho	33,600	354,200	387,900	33,600	10,800	343,400	28,200	140,200	219,400	33,600	354,200	0
BLM	33,600	354,200	387,900	33,600	10,800	343,400	28,200	140,200	219,400	33,600	354,200	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0
Bear Lake	0	0	0	0	0	0	0	0	0	0	0	0
BLM	0	0	0	0	0	0	0	0	0	0	0	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0

Table 4-50
Acres of Low Sagebrush within GRS Analysis Areas in the Idaho and Southwestern Montana Sub-region

Analysis Area	Alternative B		Alternative C	Alternative D			Alternative E			Alternative F		
	PGMA	PPMA	PPMA	PGMA	PMMA	PPMA	GHZ ¹	IHZ	CHZ ¹	PGMA	PPMA	PRMA
Weiser	12,900	17,500	30,300	12,900	13,700	3,700	30,300	0	0	12,900	17,500	0
BLM	12,900	17,500	30,300	12,900	13,700	3,700	30,300	0	0	12,900	17,500	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0
Sawtooth	0	0	0	0	0	0	0	0	0	0	0	0
BLM	0	0	0	0	0	0	0	0	0	0	0	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0
Total	61,835	767,170	828,975	61,865	63,569	703,542	84,245	263,521	481,270	61,845	767,170	0
BLM	55,155	751,640	806,745	55,185	59,809	691,732	76,745	257,141	472,930	55,165	751,640	0
Forest Service	6,680	15,530	22,230	6,680	3,760	11,810	7,500	6,380	8,340	6,680	15,530	0

Source: BLM 2013a; Forest Service 2013a

¹Acres in PPMA in Utah and Montana are included with CHZ acres for Idaho. Acres in PGMA in Montana are included in GHZ for Idaho.

Table 4-51
Acres of Mixed Sagebrush within GRSG Analysis Areas in the Idaho and Southwestern Montana Sub-region

Analysis Area	Alternative B		Alternative C	Alternative D			Alternative E			Alternative F		
	PGMA	PPMA	PPMA	PGMA	PMMA	PPMA	GHZ ¹	IHZ	CHZ ¹	PGMA	PPMA	PRMA
East-Central Idaho	0	0	0	0	0	0	0	0	0	0	0	0
BLM	0	0	0	0	0	0	0	0	0	0	0	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0
Mountain Valleys	318,500	1,788,900	2,107,400	318,400	321,300	1,467,600	349,900	610,400	218,400	318,500	1,788,900	0
BLM	131,100	1,427,600	1,558,700	131,100	172,700	1,254,900	131,800	610,400	24,100	131,100	1,427,600	0.2
Forest Service	187,400	361,300	548,700	187,300	148,600	212,700	218,100	135,900	194,300	187,400	361,300	0
SW Montana	270,900	493,500	764,400	271,700	4,220	487,500	274,400	1,530	398,800	271,800	492,800	0
BLM	172,000	401,700	573,700	172,000	2,500	398,800	173,400	1,160	398,800	172,000	401,600	0
Forest Service	98,900	91,800	190,700	99,700	1,720	88,700	101,000	370	88,700	99,800	91,200	0
North Side Snake	0	0	0	0	0	0	0	0	0	0	0	0
BLM	0	0	0	0	0	0	0	0	0	0	0	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0
South Side Snake	0	0	0	0	0	0	0	0	0	0	0	0
BLM	0	0	0	0	0	0	0	0	0	0	0	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0
Southwest Idaho	0	0	0	0	0	0	0	0	0	0	0	0
BLM	0	0	0	0	0	0	0	0	0	0	0	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0
Bear Lake	4,460	41,200	45,660	4,420	870	40,390	6,670	14,920	24,100	4,420	41,200	0
BLM	4,100	40,000	44,100	4,060	560	39,500	6,130	13,900	24,100	4,060	40,000	0
Forest Service	360	1,200	1,560	360	310	890	540	1,020	0	360	1,200	0

Table 4-51
Acres of Mixed Sagebrush within GRSG Analysis Areas in the Idaho and Southwestern Montana Sub-region

Analysis Area	Alternative B		Alternative C	Alternative D			Alternative E			Alternative F		
	PGMA	PPMA	PPMA	PGMA	PMMA	PPMA	GHZ ¹	IHZ	CHZ ¹	PGMA	PPMA	PRMA
Weiser	0	0	0	0	0	0	0	0	0	0	0	0
BLM	0	0	0	0	0	0	0	0	0	0	0	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0
Sawtooth	14,400	0	14,400	14,400	0	0	14,400	0	0	14,400	0	0
BLM	0	0	0	0	0	0	0	0	0	0	0	0
Forest Service	14,400	0	14,400	14,400	0	0	14,400	0	0	14,400	0	0
Total	608,300	2,323,600	2,931,900	609,000	326,400	1,995,500	645,300	626,900	730,000	609,100	2,323,700	0
BLM	307,200	1,869,300	2,176,500	307,200	175,800	1,693,200	311,300	625,500	447,000	307,200	1,869,200	0
Forest Service	301,100	454,300	755,400	301,800	150,600	302,300	334,000	1,400	283,000	301,900	454,500	0

Source: BLM 2013a; Forest Service 2013a

¹Acres in PPMA in Utah and Montana are included with CHZ acres for Idaho. Acres in PGMA in Montana are included in GHZ for Idaho.

Table 4-52
Acres of Tall Sagebrush within GRSG Analysis Areas in the Idaho and Southwestern Montana Sub-region

Analysis Area	Alternative B		Alternative C	Alternative D			Alternative E			Alternative F		
	PGMA	PPMA	PPMA	PGMA	PMMA	PPMA	GHZ ¹	IHZ	CHZ ¹	PGMA	PPMA	PRMA
East-Central Idaho	28,000	8,660	36,700	28,000	5,310	3,350	14,500	0	22,200	28,000	8,660	0
BLM	13,500	8,660	22,200	13,500	5,310	3,350	0	0	22,200	13,500	8,660	0
Forest Service	14,500	0	14,500	14,500	0	0	14,500	0	0	14,500	0	0
Mountain Valleys	1	7	8	1	0	7	2	6	0	1	7	0
BLM	0	7	7	0	0	7	1	6	0	0	7	0
Forest Service	1	0	1	1	0	0	1	0	0	1	0	0
SW Montana	0	0	0	0	0	0	0	0	0	0	0	0
BLM	0	0	0	0	0	0	0	0	0	0	0	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0
North Side Snake	267,800	1,135,500	1,403,100	267,800	145,600	989,800	376,900	277,200	603,600	267,800	1,135,500	8
BLM	212,300	1,114,100	1,326,300	212,300	133,000	981,100	320,700	256,600	603,600	212,300	1,114,100	8
Forest Service	55,500	21,400	76,800	55,500	12,600	8,700	56,200	20,600	0	55,500	21,400	0
South Side Snake	226,600	794,700	1,021,300	226,500	257,300	519,000	219,300	125,000	359,300	226,600	794,700	22
BLM	163,900	628,900	792,800	163,800	235,500	375,000	144,700	55,500	274,900	163,900	628,900	22
Forest Service	62,700	165,800	228,500	62,700	21,800	144,000	74,600	69,500	84,400	62,700	165,800	0
Southwest Idaho	159,900	1,146,500	1,306,400	159,800	46,100	1,098,800	41,000	31,200	498,600	159,900	1,146,500	1
BLM	159,900	1,146,500	1,306,400	159,800	46,100	1,098,800	41,000	31,200	498,600	159,900	1,146,500	1
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0
Bear Lake	0	0	0	0	0	0	0	0	0	0	0	0
BLM	0	0	0	0	0	0	0	0	0	0	0	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0

Table 4-52
Acres of Tall Sagebrush within GRSG Analysis Areas in the Idaho and Southwestern Montana Sub-region

Analysis Area	Alternative B		Alternative C	Alternative D			Alternative E			Alternative F		
	PGMA	PPMA	PPMA	PGMA	PMMA	PPMA	GHZ ¹	IHZ	CHZ ¹	PGMA	PPMA	PRMA
Weiser	56,600	40,700	97,400	56,600	29,800	11,000	9,450	0	9,450	56,600	40,700	0
BLM	56,600	40,700	97,400	56,600	29,800	11,000	9,450	0	9,450	56,600	40,700	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0
Sawtooth	0	0	0	0	0	0	0	0	0	0	0	0
BLM	0	0	0	0	0	0	0	0	0	0	0	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0
Total	738,900	3,126,100	3,864,900	738,700	484,100	2,622,000	661,200	433,400	1,493,200	738,900	3,126,100	30
BLM	606,200	2,938,900	3,545,100	606,000	449,700	2,469,300	515,900	343,300	1,408,800	606,200	2,938,900	30
Forest Service	132,700	187,200	319,800	132,700	34,400	152,700	145,300	90,100	84,400	132,700	187,200	0

Source: BLM 2013a; Forest Service 2013a

¹Acres in PPMA in Utah and Montana are included with CHZ acres for Idaho. Acres in PGMA in Montana are included in GHZ for Idaho.

Table 4-53
Acres of Perennial Grassland within GRSG Analysis Areas in the Idaho and Southwestern Montana Sub-region

Analysis Area	Alternative B		Alternative C	Alternative D			Alternative E			Alternative F		
	PGMA	PPMA	PPMA	PGMA	PMMA	PPMA	GHZ ¹	IHZ	CHZ ¹	PGMA	PPMA	PRMA
East-Central Idaho	480	10	500	480	10	0	500	0	0	480	10	0
BLM	430	10	450	430	10	0	450	0	0	430	10	0
Forest Service	50	0	50	50	0	0	50	0	0	50	0	0
Mountain Valleys	2,380	29,600	32,000	2,380	1,000	28,600	3,260	9,120	19,600	2,380	29,600	0
BLM	1,390	27,300	28,700	1,390	620	26,600	2,260	7,110	19,300	1,390	27,300	0
Forest Service	990	2,340	3,340	990	390	1,960	1,000	2,010	320	990	2,340	0
SW Montana	4,170	600	4,770	4,170	0	590	4,170	0	590	4,170	600	0
BLM	2,450	540	2,990	2,450	0	530	2,450	0	530	2,450	540	0
Forest Service	1,720	60	1,780	1,720	0	60	1,720	0	60	1,720	60	0
North Side Snake	158,900	346,000	504,800	158,900	58,200	287,700	376,800	21,000	105,100	158,900	346,000	0
BLM	156,900	344,100	500,900	156,900	56,800	287,200	374,800	21,000	105,100	156,900	344,100	0
Forest Service	1,980	1,930	3,920	1,980	1,410	530	2,020	0	0	1,980	1,930	0
South Side Snake	191,400	418,000	609,300	191,400	162,200	255,700	218,500	165,300	42,500	191,400	417,900	10
BLM	178,700	400,200	578,900	178,700	157,600	242,500	200,600	154,000	42,500	178,700	400,140	10
Forest Service	12,700	17,800	30,400	12,700	4,560	13,200	17,900	11,300	1,220	12,700	17,800	0
Southwest Idaho	53,100	79,000	132,100	53,100	5,170	73,800	52,500	37,000	42,500	53,100	78,900	0
BLM	53,100	79,000	132,100	53,100	5,170	73,800	52,500	37,000	42,500	53,100	78,900	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0
Bear Lake	0	520	520	0	0	520	10	20	500	0	516	0
BLM	0	520	520	0	0	520	10	20	500	0	516	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0
Weiser	28,300	4,500	32,800	28,300	2,780	1,670	32,800	0	0	28,300	4,450	0

Table 4-53
Acres of Perennial Grassland within GRSG Analysis Areas in the Idaho and Southwestern Montana Sub-region

Analysis Area	Alternative B		Alternative C	Alternative D			Alternative E			Alternative F		
	PGMA	PPMA	PPMA	PGMA	PMMA	PPMA	GHZ ¹	IHZ	CHZ ¹	PGMA	PPMA	PRMA
BLM	28,300	4,500	32,800	28,300	2,780	1,670	32,800	0	0	28,300	4,450	0
Forest Service	0	0	0	0	0	0	0	0	0	0	0	0
Sawtooth	20	0	20	20	0	0	20	0	0	20	0	0
BLM	0	0	0	0	0	0	0	0	0	0	0	0
Forest Service	20	0	20	20	0	0	20	0	0	20	0	0
Total	438,700	878,300	1,316,900	438,700	229,400	648,600	688,600	232,400	210,800	438,700	878,100	10
BLM	421,300	856,200	1,277,400	421,300	223,000	632,800	665,900	219,100	210,400	421,300	856,000	10
Forest Service	17,400	22,100	39,500	17,400	6,350	15,800	22,700	13,300	410	17,400	22,100	0

Source: BLM 2013a; Forest Service 2013a

¹Acres in PPMA in Utah and Montana are included with CHZ acres for Idaho. Acres in PGMA in Montana are included in GHZ for Idaho.

Impacts from Lands and Realty Management

Identifying PGMA as ROW avoidance and PPMA as ROW exclusion areas would reduce impacts on vegetation, as described under **Section 4.3.2**. In addition, the BLM and Forest Service would restore ROWs that are no longer in use. This would increase the extent and connectivity of sagebrush habitats and reduce the spread of weeds to these areas over the long term. Lands would be retained in federal ownership, with limited exceptions, which would reduce fragmentation, as described under **Section 4.3.2**.

Impacts from Habitat Restoration and Vegetation Management

Under Alternative B, habitat restoration and vegetation management actions would improve GRSG habitat. It would do this by restricting activities that degrade sagebrush communities, while promoting and prioritizing those activities that improve sagebrush communities and prioritizing restoration to benefit GRSG habitat. The BLM and Forest Service would require the use of native seeds as a component and would design post-restoration management to ensure the long-term persistence of restoration. In addition, the BLM and Forest Service would consider climate change when determining species for restoration. Together, these management actions would alter vegetative communities by increasing sagebrush height, herbaceous cover, and vegetation productivity.

Treatments designed to prevent encroachment of trees and nonnative species would alter the condition of native vegetation communities by changing the density, composition, and frequency of species within plant communities. Habitat connectivity for GRSG could be increased over the planning timeframe through vegetation manipulation designed to restore vegetation, particularly sagebrush overstory cover.

Vegetation manipulations in riparian areas, such as weed treatments, native plantings, and erosion control in the channel, would improve the acreage and condition of the riparian vegetation community, individual riparian species, and hydrologic functionality. The result of this would be to attain PFC or forest plan standards and guidelines.

Impacts from Wildland Fire Management

Fuels treatments under Alternative B would be designed to protect sagebrush ecosystems by maintaining sagebrush cover, applying seasonal restrictions and protections for winter range, and requiring use of native seeds as a component of restoration. Post-fuels treatments, ESR, and BAER management would be designed to ensure long-term persistence of seeded areas and native plant restoration areas. While the risk of wildfire in sagebrush areas would continue, these management actions would help to restore sagebrush vegetation and prevent degradation or destruction of sagebrush from wildfire. Furthermore, emphasizing the use of native seeds and noninvasive species would reduce the likelihood for weed invasion in burned or treated areas.

The BLM and Forest Service would also prioritize suppression in PPMA, which would retain the existing conditions and trends of vegetation in these areas. Impacts from fuels treatments, ESR/BAER, and suppression are similar to those described under **Section 4.3.2**.



Impacts from Nonenergy Leasable Minerals Management

Under Alternative B, PPMA would be closed to future nonenergy leasable mineral leasing (**Table 4-41**) and RDFs would be required on existing leases. This would prevent removal, fragmentation, and other impacts on vegetation associated with nonenergy leasable mineral development in unleased areas and would reduce impacts in leased areas.

Impacts from Locatable Minerals Management

In addition to withdrawing acres from locatable mineral entry, the BLM and Forest Service would make applicable BMPs (see Appendix C) required design features on 3809 plans and Plans of Operation in PPMA. These actions would reduce the likelihood that vegetation would be removed, degraded, or fragmented in these areas and would reduce the likelihood that weeds could be introduced or spread as a result of locatable mineral development.

Impacts from Salable Minerals Management

In addition to closing PPMA to mineral material sales, the BLM and Forest Service would restore salable mineral pits no longer in use. Over the long term, closures would protect existing vegetation from removal, degradation, fragmentation, and nonnative invasive species introduction or spread. Restoration would increase the extent of vegetation and depending on the location could remove nonnative invasive species and reduce fragmentation.

Impacts from Fluid Minerals Management

In addition to acres closed to fluid mineral leasing (**Table 4-43**), the BLM and Forest Service would require numerous conservation measures (as described in **Table 2-20**) in PPMA. Impacts are similar to those described for Locatable Minerals Management, above. Over the long term, closures and NSO stipulations would protect vegetation from removal, degradation, fragmentation, and nonnative invasive species introduction or spread in unleased areas. Conservation measures would help to reduce such impacts in leased areas. Restoration would improve the condition and increase the extent of vegetation and depending on the location could remove nonnative invasive species and reduce fragmentation. Geophysical exploration could disturb vegetation or spread weeds, but it would be unlikely to remove substantial amounts of vegetation.

Impacts from Travel and Transportation Management

Under Alternative B, motorized travel would be limited to existing roads, primitive roads, and trails within PPMA (**Table 4-44**). Management actions would also reduce new route construction and restore roads, primitive roads, and trails not designated under future travel management plans. These actions would reduce the likelihood of impacts caused by roads, as described under **Section 4.3.2**, and would increase the acreage and connectivity of sagebrush vegetation.

Impacts from Livestock Grazing Management

Under Alternative B, the BLM and Forest Service would not change permitted AUMs compared to Alternative A (**Table 4-45**). However, the BLM and Forest Service would implement a number of management actions in PPMA, including prioritizing land health assessments or similar grazing evaluations in GRSG habitat, to incorporate GRSG habitat objectives and management considerations into livestock grazing management and to

improve the condition of vegetation in GRSG habitat areas. These actions include completing land health assessments or similar grazing evaluations, taking into consideration grazing methods and systems to reduce impacts on GRSG habitat, improving management of riparian areas and wet meadows, and evaluating existing introduced perennial grass seedings, water developments, and structural range improvements. Such measures would help to improve vegetation condition of rangeland and riparian and wetland areas. They also could reduce the likelihood of nonnative invasive species introduction or spread. Together, these efforts would improve consistency of management across the sub-region and would reduce impacts from grazing on vegetation, described in **Section 4.3.2**.

Impacts from Special Designations Management

Impacts from ACEC management under Alternative B are the same as those described for Alternative A (**Table 4-46**).

4.3.6 Alternative C

Under Alternative C, the BLM and Forest Service would manage lands to conserve, enhance, and restore sagebrush ecosystems. Management actions would be applied to all occupied GRSG habitats (**Table 4-15**). Management would focus on removing livestock grazing from occupied habitats, with most other management similar that to Alternative A. A three percent disturbance cap would be the same as under Alternative B but would be applied to all occupied habitat.

Impacts from Lands and Realty Management

Lands and realty management under Alternative C would be similar to that described for Alternative B, but ROW exclusion areas would be designated in all occupied habitats and ACECs (**Table 4-40**). In addition, all occupied habitat, ACECs, and restoration areas would be retained in federal ownership. These actions would protect vegetation from removal, degradation, and fragmentation in protected areas. Impacts from ROW exclusion areas and retention of federal lands would be as described under **Section 4.3.2**.

Impacts from Habitat Restoration and Vegetation Management

Management under Alternative C would be similar to that described under Alternative A, though with an increased focus on restoration. Impacts are similar to those described for Alternative A, though impacts may be reduced in areas where vegetation is restored to the reference state of the appropriate ecological site description.

Impacts from Wildland Fire Management

Impacts from wildland fire management under Alternative C are similar to those described for Alternative A.

Impacts from Nonenergy Leasable Minerals Management

Impacts from nonenergy leasable minerals management under Alternative C are the same as those described under Alternative B, but would include more acres in PPMA (**Table 4-41**). These management changes would prevent impacts on vegetation associated with nonenergy



leasable mineral development in unleased areas, described in **Section 4.3.2**, and reduce impacts in leased areas.

Impacts from Locatable Minerals Management

Impacts from locatable minerals management under Alternative C are the same as those described under Alternative A.

Impacts from Salable Minerals Management

Impacts from salable minerals management under Alternative C are the same as those described under Alternative A (**Table 4-42**).

Impacts from Fluid Minerals Management

Impacts from fluid minerals management under Alternative C are similar to those described for Alternative B, although all occupied habitat would be closed to leasing (**Table 4-43**).

Impacts from Travel and Transportation Management

Impacts from travel and transportation management under Alternative C are the same as those described under Alternative A (**Table 4-44**).

Impacts from Livestock Grazing Management

Under Alternative C, livestock grazing would be removed from all occupied GRSG habitats (**Table 4-45**). The effects of livestock exclusion would depend on climate, soils, fire history, and disturbance and grazing history (Strand and Launchbaugh 2013, p. 10). While studies have examined the effects of reducing or changing livestock grazing, limited literature is available on the effects of completely removing livestock grazing. Grazing is associated with direct and indirect impacts on vegetation, as described under **Section 4.3.2**. Grazing may reduce resistance to invasion from cheatgrass (Reisner et al. 2013, p. 9), reduce water infiltration, increase soil compaction and erosion, and decrease water quality (Braun 1998 and Dobkin et al. 1998 in USFWS 2010, p. 13939).

Ceasing grazing could relieve these impacts and allow for recovery of native understory perennials and an increase in sagebrush and herbaceous vegetation cover (Strand and Launchbaugh 2013, pp. 6-7). This recovery would enhance habitat components important to nest success, including cover and forage by increasing the insect population. Other research suggests that understory herbaceous productivity may not increase in depleted sagebrush ranges when grazing is removed (Beck and Mitchell 2000, p. 995). Furthermore, in some areas, passive restoration may not be sufficient to improve GRSG habitat and active restoration may be necessary (Davies et al. 2011).

Riparian and wetland areas that have been altered by grazing-associated water developments would be restored, potentially increasing the acreage and improving the condition of these vegetation communities. However, impacts from wildlife use and from wild horses and burros, where present, on riparian and wetland areas would continue.

In the short term, this alternative would result in more residual herbaceous biomass, which may result in some smaller fires under less severe conditions. It may also result in more

crown die-out of bunchgrasses that burn hotter due to retained crown fuel. Evidence suggests that the potential role of grazing on fire behavior is limited under extreme burning conditions, such as low fuel moisture and relative humidity, high temperature, and wind speed (Strand and Launchbaugh 2013, p. 16). Ultimately, the effect of removing grazing on fire spread, severity, and intensity would depend on weather, fuel characteristics, landscape features, and other factors.

Impacts from Special Designations Management

Under Alternative C, the BLM would designate 39 new ACECs (**Table 4-46**). Impacts from management of ACECs are as described under **Section 4.3.2**.

4.3.7 Alternative D

Under Alternative D, the BLM and Forest Service would manage lands to conserve, enhance, and restore sagebrush ecosystems. Management and impacts would be similar to Alternative B, though Alternative D would incorporate more flexibility and adaptive management applied to resource uses to account for sub-regional conditions. PPMA, PMMA, and PGMA would be designated (**Table 4-15**). The BLM and Forest Service would require a no net unmitigated loss of PPMA and PMMA and would implement numerous conservation measures to reduce impacts from human activities in PPMA. This would reduce the likelihood for vegetation removal, degradation, or fragmentation.

However, by including a rule set to release areas from PPMA, PMMA, PGMA protection, some vegetation communities that do not provide habitat for GRSG could receive less protection under this alternative and could be subject to removal, damage, or reduced condition caused by human disturbances.

Impacts from Lands and Realty Management

Under Alternative D, PPMA would be ROW avoidance, with exclusions for wind and solar development. A number of uses would not be allowed, such as large transmission facilities, fluid mineral development, and paved and graded gravel roads. PMMA and PGMA would be designated as ROW avoidance areas for all infrastructure (**Table 4-39**). Impacts from designating ROW exclusion and avoidance areas are as described under **Section 4.3.2**; impacts from land tenure decisions are similar to those described for Alternative B.

Impacts from Habitat Restoration and Vegetation Management

Management under Alternative D would be similar to that described for Alternative B, though with additional measures, as described in **Table 2-20**, to prioritize vegetation rehabilitation. They would incorporate design features that would improve the success of rehabilitation projects and strategically plan for wildfire suppression. Together, these management actions would improve the likelihood for sagebrush rehabilitation and prevention of catastrophic wildfires that would destroy sagebrush vegetation over the long term.



Impacts from Wildland Fire Management

Wildfire management under Alternative D would be similar to that described for Alternative B, with additional management flexibility to respond to sub-regional conditions and management, and guidance incorporated to tailor management to specific vegetation communities. The BLM and Forest Service would prioritize wildfire suppression planning and would consider targeted grazing to reduce fine fuels throughout the decision area. Together, these actions would improve wildfire management, given the limited resources available, and would target those areas that need most protection. As a result, the likelihood for wildfire would be reduced and subsequent impacts on vegetation from wildfire described under **Section 4.3.2** would also be reduced.

Impacts from Nonenergy Leasable Minerals Management

Under Alternative D, PPMA and PMMA would be closed to nonenergy leasable mineral leasing with exceptions for modifications (**Table 4-41**). PGMAs are available for leasing subject to applicable timing restrictions and lease stipulations. RDFs and restoration would be required on existing leases in all GRSG habitat. This would reduce impacts on vegetation associated with nonenergy leasable mineral development in unleased and leased areas, as described under **Section 4.3.2**.

Impacts from Locatable Minerals Management

Acres open to locatable mineral development under Alternative D would be the same as those described for Alternative A. However, no net unmitigated loss of habitat would be allowed under this alternative. This measure, along with BMPs (see Appendix C), would reduce impacts on vegetation and would restore habitat, thereby reducing the impacts described under Alternative A.

Impacts from Salable Minerals Management

Under Alternative D, no new authorizations would be approved within 1.86 miles (3 km) of an occupied lek. RDFs and timing limitations would be applied to newly authorized disposals throughout the decision area, and reclamation bonding would be required (**Table 4-42**). Impacts on vegetation, such as those described under **Section 4.3.2**, could occur from authorizations outside of the 1.86-mile (3 km) buffer from leks, although RDFs would reduce impacts.

Impacts from Fluid Minerals Management

Under Alternative D, low or no potential areas in PPMA and PMMA would be closed to fluid mineral leasing (**Table 4-43**). Areas of moderate and high potential would be open to leasing, subject to CSU, timing limitations, and an NSO stipulation within 0.6 miles (1 km) of an occupied lek. Geophysical exploration would be allowed, subject to timing limitations. Impacts on vegetation, such as those described under **Section 4.3.2**, could occur from development on leases outside of the 0.6-mile (1 km) buffer from leks, although RDFs would reduce impacts.

Impacts from Travel and Transportation Management

Impacts from travel and transportation management under Alternative D are similar to those described under Alternative B, though with increased flexibility to provide for high quality

and sustainable travel routes and administrative access (**Table 4-44**). As such, there may be increased impacts on the acreage of vegetation in areas where new routes are created. Impacts in these areas are as described under **Section 4.3.2**.

Impacts from Livestock Grazing Management

Under Alternative D, the BLM and Forest Service would maintain the same number of acres open to grazing as under Alternative A (**Table 4-45**). Impacts from livestock grazing management under Alternative D are similar to those described for Alternative B. However, under Alternative D, PPMA would receive the highest priority, subject to legal requirements, for completion of land health assessments. Also, the BLM and Forest Service would restrict authorizations of new water developments and would evaluate introduced perennial grass seedings. The BLM and Forest Service would incorporate measures to reduce impacts from trailing and would consider using grazing to achieve fuels management objectives throughout the decision area. Together these measures would reduce the impacts from grazing described under **Section 4.3.2**.

Impacts from Special Designations Management

Impacts from ACEC management under Alternative D are the same as those described for Alternative A (**Table 4-46**).

4.3.8 Alternative E

Under Alternative E, the BLM and Forest Service would manage to maintain, conserve, enhance, and restore sagebrush ecosystems. CHZ, IHZ, and GHZ would be designated (**Table 4-15**). In CHZ and IHZ, the BLM and Forest Service would incorporate management flexibility to permit high value infrastructure with appropriate mitigation and best management practices tailored for the sub-region. Management and impacts are similar to Alternative D, though Alternative E would require less stringent use restrictions and would designate the least amount of CHZ, compared to the other alternatives' management area designations.

Impacts from Lands and Realty Management

Under Alternative E, CHZ and IHZ would be designated as ROW avoidance areas, although the BLM and Forest Service would allow for more exceptions for development in IHZ (**Table 4-39**). This could increase the likelihood for impacts on vegetation, such as disturbance, removal, or fragmentation. Impacts from designation of ROW avoidance areas are as described under **Section 4.3.2**. Alternative E does not provide guidance for land tenure decisions in GRSG habitat, so there would be no associated effects on vegetation.

Impacts from Habitat Restoration and Vegetation Management

Development of a restoration strategy for vegetation management at the implementation stage would help focus priorities on the areas and communities identified as most pertinent to restoring sagebrush and GRSG habitat. Native vegetation would be used for restoration to the extent practicable. These measures would increase the acreage and extent of sagebrush vegetation over the long term. Invasive species would be controlled for three years after



wildfire treatments, which would reduce the likelihood of invasive weeds to be introduced or spread into recently burned areas.

Impacts from Wildland Fire Management

Alternative E provides guidance to reduce wildfire response time, create fuel breaks, and improve the wildfire suppression baseline. The goal is to maintain habitat to support 73 to 95 percent of breeding male GRSG by implementing fire breaks, re-seeding burned areas, establishing Rangeland Fire Protection Associations within CHZ and IHZ, and offsetting habitat losses to wildfire, according to the Governor's Office of Species Conservation letter dated July 1, 2013 (Governor's Office of Species Conservation 2013). Completion of a response time analysis would help focus suppression resources and activities to help reduce the size and extent of wildfires in CHZ. Targeted grazing would be allowed in IHZ. These actions would improve the likelihood for fire suppression and would reduce the likelihood for fire, thereby protecting existing vegetation. However, this alternative does not provide much guidance regarding other fuel treatments and ESR, which could limit the success of fire suppression and regrowth of desired vegetation after a fire.

Impacts from Nonenergy Leasable Minerals Management

Alternative E does not provide guidance on nonenergy leasable minerals management, and as such, impacts on vegetation are expected to be similar to those described for Alternative A (Table 4-41).

Impacts from Locatable Minerals Management

Alternative E does not provide guidance on locatable minerals management, and as such, impacts on vegetation are expected to be similar to those described for Alternative A.

Impacts from Salable Minerals Management

Alternative E does not provide guidance on salable minerals management, and as such, impacts on vegetation are expected to be similar to those described for Alternative A (Table 4-42).

Impacts from Fluid Minerals Management

Under Alternative E, the BLM and Forest Service would apply an NSO stipulation on leases in CHZ, which would reduce the likelihood of surface-disturbing activities and vegetation removal in these areas. No additional areas would be closed to leasing (Table 4-43), but a five percent disturbance cap would apply to fluid mineral impacts only. Fluid mineral leasing would be authorized in IHZ under certain conditions, and vegetation could be disturbed, removed, or fragmented in the areas where development would occur.

Impacts from Travel and Transportation Management

Under Alternative E, the completion of travel management planning would be prioritized and would seek to minimize disturbance to GRSG and their habitat. Prior to completion of travel planning, vehicles would be restricted to existing routes and new roads would be discouraged or re-routed where possible (State of Idaho 2012). No immediate road closures would occur (Table 4-44).

Impacts from Livestock Grazing Management

Impacts from livestock grazing management under Alternative E are similar to those described for Alternative D, though with an increased emphasis on flexibility to respond to sub-regional conditions and adaptive management in grazing management (**Table 4-45**). These measures could further reduce impacts on vegetation, depending on where and how they were applied.

Impacts from Special Designations Management

Impacts from ACEC management under Alternative E are the same as those described for Alternative A (**Table 4-46**).

4.3.9 Alternative F

Management under Alternative F would be largely similar to that described for Alternative B, though with more stringent guidance and restrictive management in sagebrush ecosystems. PPMA, PGMA and PRMA would be designated (**Table 4-15**). Unique to Alternative F, an area would be considered successfully restored only if GRSG used the area.

Impacts from implementing the maximum three percent disturbance cap are similar to those described for Alternative B; however, under Alternative F, all surface disturbances (including human disturbance and fire) would count toward this cap. This would further reduce the acreage of vegetation that would be removed or fragmented within all occupied habitat over the long term.

Impacts from Lands and Realty Management

Impacts from designation of ROW exclusion areas are similar to those described under Alternative B (**Table 4-40**). Impacts from land tenure decisions are similar to those described under Alternative B, though Alternative F would not allow for exceptions to disposal criteria. This would reduce management flexibility and could have implications for vegetation connectivity.

Impacts from Habitat Restoration and Vegetation Management

Impacts from habitat restoration and vegetation management under Alternative F are similar to those described for Alternative B.

Impacts from Wildland Fire Management

Impacts from wildland fire management under Alternative F are similar to those described for Alternative B. Alternative F would require exclusions of grazing post-fire. This would reduce grazing pressure on and trampling of ESR seedlings, thus improving the likelihood of native vegetation restoration post-fire.

Impacts from Nonenergy Leasable Minerals Management

Impacts from nonenergy leasable minerals management under Alternative F are the same as those described for Alternative B (**Table 4-41**).



Impacts from Locatable Minerals Management

Impacts from locatable minerals management under Alternative F are the same as those described for Alternative B.

Impacts from Salable Minerals Management

Impacts from salable minerals management under Alternative F are the same as those described for Alternative B (**Table 4-42**).

Impacts from Fluid Minerals Management

Impacts from fluid minerals management under Alternative F are the same as those described for Alternative B (**Table 4-43**).

Impacts from Travel and Transportation Management

Impacts from travel and transportation management under Alternative F are similar to those described for Alternative B, though there would be fewer impacts on vegetation under Alternative F (**Table 4-44**), because no new road construction would be allowed within 4 miles (6.4 km) of leks in PPMA, and mitigation of impacts from route construction would be required.

Impacts from Livestock Grazing Management

Impacts from livestock grazing management under Alternative F are similar to those described for Alternative B, though Alternative F would require a 25 percent reduction in AUMs and would incorporate more stringent guidance and restrictive measures. This reduction could further reduce impacts on vegetation by reducing grazing pressure across the decision area. The total acreage open to grazing would be the same as for Alternative B (**Table 4-45**).

Impacts from Special Designations Management

Under Alternative F, the BLM would designate 17 or 18 new ACECs and Forest Service would designate 12 new ZAs (**Table 4-46**). Impacts from management of ACECs are as described under **Section 4.3.2** and impacts from ZAs are expected to be similar.

4.4 Wild Horse and Burro Management

4.4.1 Methods and Assumptions

Indicators

Indicators of impacts on wild horses and burros are as follows:

- Changes in Acres available
- Changes in permitted AMLs
- Changes in allotted forage (AUMs)
- Changes in funding or resources available for management

Assumptions

The analysis includes the following assumptions:

- Horses and burros depend on the herbaceous component of a shrub/grass plant community. Encroachment of shrubs or pinyon-juniper onto established rangelands is adverse, and increases in grasses and forbs are beneficial. Vegetation treatments, such as prescribed burns or weed control, can enhance the plant community composition and forage availability.
- Although the BLM cannot control when wild horses and burros use certain areas, heavy or poorly timed wild horse and burro grazing may adversely affect plant composition, plant succession, and ground cover.
- Water is the primary resource associated with wild horse distribution, and water developments can improve wild horse distribution. Furthermore, human-made water developments that employ some type of mechanical device, such as a windmill or electric pump, can fail and cause horses to go without or to go elsewhere for water.
- Fences and other disturbances can restrict wild horse movement and access. Fences are sometimes necessary to restrict horse distribution to areas inside HMAs or to protect sensitive resources within HMAs.
- While wild horses and burros may be found on lands outside HMAs that have no forage allocated to them. The BLM has no authority to manage wild horses and burros outside of HMAs, except to remove them.
- The scheduling for wild horse and burro gathers is influenced by a national priority process. Factors affecting gather priorities are determinations of excess horses and overpopulations, wild horse and range condition, annual appropriations, litigation and court orders, emergency situations, such as disease, weather, and fire, availability of contractors, the market for adoption, and long-term holding availability for unadoptable excess horses. The principal factor affecting gather priorities is that short- and long-term holding facilities are at or near capacity, significantly reducing the number of excess wild horses and burros that can be removed from HMAs.
- Population growth suppression (fertility control agents, sterilization, and sex ratio adjustments) can aid in population control, but periodic gathers are still necessary to remove excess wild horses.
- Wild horse and burro distribution varies by season, climatic conditions, water and forage availability, and population size.
- Intensive livestock grazing management strategies (scheduled pasture rotations) that involve fences are generally not appropriate for long-term wild horse management.



4.4.2 Nature and Type of Effects

All HMAs are managed for AML. Initially, AML is established in RMPs at the outset of planning and is adjusted based on monitoring data through revision of HMA Plans and subsequent land use plan amendment. Priorities for gathering excess wild horses and burros to maintain AML are based on population inventories, resource monitoring objectives, gather schedules, and budgets. Gathers are also conducted in emergency situations when the health of the population is at risk due to lack of forage or water and, in some situations, wildland fire.

Implementing management to protect GRSG generally involves reducing or otherwise restricting land uses and activities that could reduce forage and water availability or disturb a wild horse and burro population. For example, mineral extraction, recreation, and construction within ROW grants may result in any of the following:

- Reduce forage availability
- Disturb horses or burros
- Prohibit the ability of wild horses or burros to move freely across HMAs
- Limit ability to perform management activities (for example, energy development infrastructure may impact the ability to conduct helicopter gathers)

Limiting development from these activities to protect GRSG would also protect forage for wild horses and burros and would limit human and surface disturbance.

Conversely, there could be impacts on wild horses and burros and the ability to support AMLs when management options for HMAs are restricted. Impacts from range improvement restrictions vary, based on type of range improvement affected. Restrictions on fences would improve wild horse habitat by allowing free range, while limiting projects that could enhance forage, and water availability would not help to support the AML.

Implementing management for the following resources would have negligible or no impact on wild horse and burro management and are therefore not discussed in detail: air quality, visual resources, cultural resources, wilderness characteristics, ACECs, socioeconomics, and tribal interests.

4.4.3 Impacts Common to All Alternatives

Under all alternatives, management actions would not result in direct acreage designated as HMAs. Approximately 269,700 acres of HMAs would fall within GRSG habitat, although the acres within a specific GRSG management area designation (such as a PPMA) with associated management varies by alternative.

The Forest Service does not manage any wild horses or burros within the planning area, so no impacts would occur on Forest Service-administered lands.

Impacts from Energy and Mineral Development

Impacts from Nonenergy Leasable Minerals Management

There are expected to be minimal impacts from nonenergy leasable minerals on wild horses and burros across all alternatives due to a lack of leases in GRSG habitat.

Impacts from Coal Management

No economically viable coal resources are found in Idaho. Under the Dillon RMP, a plan amendment would be required to lease coal. As a result, coal development in the project area and related impacts on wild horses and burros are likely to be limited under all alternatives.

Impacts from Recreation and Visitor Services Management

Under all alternatives, motorized vehicles would be limited to existing roads and trails, thereby limiting the impacts on wild horses and burros from dispersed travel. Site-specific travel management planning could, when completed, reduce the potential for conflicts between wild horses and burros and travel management.

4.4.4 Alternative A

No PPMA or PGMA would be designated for GRSG under this alternative. Wild horse and burro management would be determined by management in current RMPs in the planning area.

Impacts from Vegetation Management

Under Alternative A, restoration would continue in the planning area, with long-term benefits to forage for horses and burros. Vegetation could be managed to improve forage, and impacts on WHB from vegetation management would likely be minimal. Management actions for invasive species would continue under the direction of current management plans, with the focus on areas not meeting land health standards or desired conditions.

Impacts from Wild Horse and Burro Management

Under Alternative A, all HMAs are managed for AML and for healthy populations to achieve a thriving natural ecological balance with respect to wildlife, livestock use, and other multiple uses. All adjustments to HMAs, HMA plans, and priorities of gathers would continue to be based on monitoring data. As a result, impacts on wild horses under Alternative A would depend on the site-specific conditions as reported in monitoring data.

While most HMAs in the sub-region contain GRSG habitat within a sagebrush vegetation community, prioritizing wild horses and burro gathers to maintain AML is not based on GRSG habitat needs. Nevertheless, this is implicit in the congressional directive to maintain a thriving natural ecological balance.

Impacts from Wildland Fire Management

Under Alternative A, mechanical treatments, prescribed fires, and other treatments would be used to prevent conifer encroachment and remove undesirable annual grass and weed species. These actions could improve forage for wild horses and burros in the long term.



Although most of the LUPs do not provide specific direction for fire suppression in GRSG habitat, protection of GRSG habitat during suppression has taken center stage in planning and operational discussions due to large fire in PPH and PGH in 2007 and 2012. Therefore, the risk of forage loss in these areas may be lower than in non-GRSG habitats.

Impacts from Livestock Grazing/Range Management

Under Alternative A, grazing permits, including grazing systems, permitted AUMs, and allotment boundaries, would be modified as necessary to conform to Standards and Guidelines for Livestock Grazing Management. Range improvements, including fences, vegetation treatments, and water developments, would be allowed in the decision area when needed to support grazing or to improve livestock distribution.

Levels of conflict with wild horses and burros would vary throughout the planning area based on individual RMP management and levels of grazing. Water developments for livestock would likely be maintained and may provide a source of water for horses and burros.

Impacts from Recreation Management

Under this alternative, there would be no new restrictions to SRPs in the decision area; therefore, horses and burros could be disturbed by recreation in the planning area. Some limited potential for disturbance from general recreation is possible, as described under nature and type of impacts, above.

Impacts from Travel Management

Under Alternative A, as under all alternatives, motorized travel would be limited to designated routes, and site-specific travel management planning on BLM-administered lands would be developed, limiting disturbance to horses and burros.

Impacts from Lands and Realty Management

Under Alternative A, the impacts on wild horses and burro management continue to be the same as those identified in the individual RMP documents. Under Alternative A, there would be approximately 1,010,900 acres of ROW exclusion and 1,903,400 acres of avoidance areas in the decision area; no new ROW exclusion or avoidance areas would be created. Wild horses and burros could be disturbed from development of ROWs. For these reasons, this alternative would have the highest potential for impacts from lands and realty on WHB management; however, access to HMAs for gathers would be the least restricted.

Impacts from Mineral Materials (Salables) Management

In general, Alternative A is the least restrictive on energy and mineral development of all alternatives. As a result, the indirect impacts of development on wild horses and burros, including spread of noxious weeds and disturbance of horses or burros, are the greatest under this alternative.

4.4.5 Alternative B

Impacts from Vegetation Management

Under Alternative B, restoration projects in PH would be designed to benefit GRSG and based on the likelihood of success, with reestablishment of sagebrush cover as the highest priority. Projects to remove nonnative species and improve habitat would likely improve forage conditions and water quality for wild horses in the long term. However, should management require increased fences to protect vegetation for GRSG, this could limit wild horse and burro movement and access to riparian areas and reduce water availability. This could result in potential need for reduction of wild horses and burro numbers within an HMA in order to meet vegetation objectives for GRSG.

Impacts from Wild Horse and Burro Management

Under Alternative B, management actions would require examination of herd management plans, AML levels, and range improvements or other NEPA and management activities for wild horses and burros in light of GRSG habitat objectives and potential impacts on GRSG habitat, particularly in PPMA. This could potentially result in changes to wild horse and burro management and AMLs should objectives for GRSG habitat not align with management objectives for wild horse management. In many cases, however, management actions to improve GRSG habitat would also improve wild horse rangeland conditions (for example, conifer removal and noxious weed control would improve forage conditions for wild horses and burros).

If water developments required modification to meet GRSG objectives or new developments were not permitted, water availability could be reduced. This could result in the potential need to reduce wild horse and burro numbers or develop alternative water sources within the HMA, particularly during periods of drought.

Impacts from Wildland Fire Management

Fuels projects and fire suppression to protect sagebrush ecosystems and associated PPMA would benefit wild horses and burros where HMAs overlap this habitat. This would be due to a reduction in the likelihood of high intensity wildfire. However, temporary or long-term management changes to wild horses and burros, such as reduction in AML, or fencing blocking access to forage may be necessary to achieve and maintain the desired project objectives post-fire.

Impacts from Livestock Grazing/Range Management

Management to conserve, enhance, or restore GRSG habitat that benefit livestock forage would generally also benefit wild horses and burros within GRSG in the long term. Modifying or eliminating livestock watering sites could reduce water availability for wild horses and burros. This could result in the need to reduce wild horse and burro numbers or develop alternative water sources within specific HMAs, especially during periods of drought.



Impacts from Recreation and Visitor Services Management

In PPMA, motorized travel would be limited to existing roads and trails on BLM- and Forest Service-administered lands. Travel plans (to be completed) would analyze PPMA for the need for road closures, and limitations would be implemented during development of new roads. Some reduction in routes, and limitations on new routes would occur compared to Alternative A in PPMA. This could impact the ability to conduct gathers of wild horses and burros for population control. These limits also could increase the time and costs of gathers if they are not covered by administrative exceptions. However, limits to travel would also decrease any disturbance of horses and burros from OHV use.

Under Alternative B, limits on SRPs in PPMA would reduce any conflicts between recreation and wild horse and burro management.

Impacts from Lands and Realty Management

Under Alternative B, no new ROW authorizations would be permitted in PPMA unless the development would occur within the existing developed footprint. This action would likely reduce devolvement in HMAs overlapping PPMA as compared to Alternative A, indirectly reducing related disturbance to wild horses and burros.

Impacts from Energy and Mineral Management

Under Alternative B, additional restrictions would be put on mineral development, as compared to Alternative A. Lands in PPMA would be proposed for withdrawal from mineral entry for locatable minerals, closed to mineral materials removal, and closed to new leasing for fluid minerals. For currently leased parcels, NSO stipulations would be applied in PPMA and around leks. As a result, disturbance of wild horses and burros from mineral development would be minimized in PPMA.

4.4.6 Alternative C

Impacts from Vegetation Management

Habitat restoration actions and related impacts in PPMA would be similar to that described in Alternative B. In addition, restoration proposed under Alternative C includes removing water developments. This could reduce available water in HMAs and result in the need to reduce wild horse and burro AML within an HMA in occupied habitat in order to meet vegetation objectives for GRSG.

Impacts from Wild Horse and Burro Management

Impacts are as discussed under Alternative A.

Impacts from Wildland Fire Management

Impacts are similar to those discussed under Alternative B.

Impacts from Livestock Grazing/Range Management

Elimination of livestock grazing in occupied habitat would provide additional forage for wild horses and burros where HMAs overlap these habitats. This would occur by reducing competition for forage in these areas.

Elimination of livestock watering sites or failure to maintain water developments could reduce water availability. As a result, developments would be limited, and ability to manage for AML could be impacted for HMAs in occupied habitat, particularly in drought conditions.

Impacts from Recreation and Visitor Services Management

Impacts from recreation management are similar to those discussed under Alternative A. Travel management impacts would be as discussed under Alternatives B.

Impacts from Lands and Realty Management

Under Alternative C, new ROWs for corridors would be sited in non-habitat and bundled with existing corridors to the maximum extent possible. As a result, disturbance from development and related impacts on wild horses and burros management would be reduced, compared to Alternative A.

Impacts from Energy and Mineral Management

Impacts from mineral materials would be similar to those described under Alternative B for existing fluid mineral leases and locatable saleable and nonenergy leasable minerals. No new fluid-mineral leases would be issued in PPMA. As a result, the chance of disturbance of wild horses and burros from development of these resources would be reduced as compared to Alternative A.

4.4.7 Alternative D

Impacts from Vegetation Management

Under Alternative D, vegetation rehabilitation would emphasize projects to achieve the greatest improvement in GRSG abundance and distribution. This includes sites with greater likelihood of success. Reconnecting and expanding native plant communities would be an objective across all GRSG habitat types; restoring seasonal habitats would be emphasized in both PPMA and PMMA. As discussed in Alternative B, these management actions could improve wild horse and burro forage in the long term. For example, measures to replace annual grasses with perennial grasses would also reduce interannual variability in forage quantity.

Impacts would likely occur if wild horses and burros are found to be factors in GRSG habitat not achieving or moving toward achieving objectives, in which case the adjustment of wild horse and burro populations would be considered and could result in the reduction of AMLs in some HMAs in the long term. Post-restoration management requirements could impact horse movement if fences were installed. In addition, should access to water sources be restricted, ability to manage for AML could be affected.

Impacts from Wild Horse and Burro Management

Under Alternative D, as in Alternative B, HMPAs would be amended to incorporate GRSG habitat objectives; therefore changes may be required to AMLs or wild horse and burro management in the long term in PPMA, PMMA and PGMA should these objectives not be met by current AMLs or management.



In addition, under Alternative D, no HMA expansion would be permitted in PPMA. Under PMMA habitat expansion may be permitted if impacts on Sage-Grouse as well as alternative areas of expansion are examined first. These actions would limit the ability to sustainably manage for increasing population of horses and potentially necessitate additional gathers to reduce herd sizes, at increased cost for management of the program.

Impacts from Wildland Fire Management

Under Alternative D, post-fire and restoration management would be undertaken to ensure long-term persistence of seeded or pre-burn native plants. It may also require short- or long-term change to wild horse and burro management. Fencing to exclude livestock from post-burn areas could impact the ability of horses to roam freely. If exclusion reduces horses' ability to access water sources, ability to manage for AML could be affected. The degree of impacts would be determined by the location, size, and intensity of fires in GRSG habitat but would be increased over those in Alternative B. because all GRSG habitat types would be included.

Impacts from Livestock Grazing/Range Management

Grazing management actions and impacts on wild horses and burros would be similar to those described in Alternative B. Under Alternative D, however, allotments containing PPMA would be prioritized for permit renewal, followed by PMMA and finally PGMA; impacts on wild horse and burro would occur in HMAs overlapping these habitat areas in this sequence.

Water developments under Alternative D would be limited as compared to Alternative A, as only projects that would maintain, benefit or have neutral effect on PPMA would be allowed and modification or removal of existing developments may be required. As described for Alternative B, this could result in impacts on the ability to manage for AML, particularly under drought conditions.

Impacts from Recreation Management and Visitor Services

Under Alternative D, motorized travel would be limited to designated roads, primitive roads, and trails, at a minimum. However, any play area designated for OHV use would remain open, with the potential to disturb or disrupt wild horse and burro movement in these areas. Seasonal restrictions for authorized activities could impact the ability of to access herds for gathers.

Impacts from Lands and Realty Management

Under Alternative D, new ROW and land use authorizations would be avoided whenever possible, with a goal of no net loss of GRSG habitat. ROW avoidance areas in PPMA, PMMA, and PGMA, as well as the exclusion of larger facilities in PPMA, would somewhat limit the indirect impacts of development on wild horses and burros in the avoidance and exclusion areas. Impacts could be disproportionately concentrated in non-habitat HMAs.

Similarly, management actions prohibiting solar and wind development in PPMA and imposing restrictions on development in PMMA and avoidance areas in PGMA would limit

any impacts of disturbance from development of these resources. However, this may shift impacts to non-habitat HMAs.

Impacts from Mineral Materials (Salables) Management

Under Alternative D, some degree of mineral development would be allowed, with measures to avoid or mitigate impacts on GRSG. Specifically, new fluid minerals and undeveloped nonenergy mineral leases would be allowed in all GRSG habitat types, with BMPs applied. Similarly, mineral materials would be allowed to be leased in all habitat types, with stipulations. As a result of the flexibility in management for PPMA, unlike that in Alternative B, there is some potential for mineral development in PPMA and related impacts on disturbance of wild horses and burros; however, the impacts would likely be minimal and lower than those under Alternative A. Within PMMA and PGMA, the degree of disturbance from or conflicts with wild horses and burros from energy and mineral development would also be lower than that under Alternative A.

4.4.8 Alternative E

Impacts from Vegetation Management

Impacts from habitat restoration are as described under Alternative A. Similarly, management actions of invasive species would likely be similar to Alternative A, with a focus on actions in CHZ and IHZ. Short-term impacts on wild horses and burros would be minimal, with a chance for long-term improvement of forage.

Impacts from Wild Horse and Burro Management

Under Alternative E, management actions for wild horses and burros and related impacts would be as discussed under Alternative A.

Impacts from Wildland Fire Management

Under Alternative E, management actions for wildfire include an emphasis on fire suppression and reduction in fire risk in CHZ, IHZ, and GHZ. As a result, the risk of ignition and spread of fire in occupied GRSG habitat would be reduced, thereby reducing the impacts of fire on HMAs in GRSG habitat. The risk of fire spread in HMAs in other habitat could increase, should limited resources be allocated for GRSG habitat.

Impacts from Livestock Grazing/Range Management

Under Alternative E, management actions for livestock grazing would be based on GRSG population trends and focused on CHZ and IHZ. Adjustments would be applied at a site-specific level and specifically tailored to achieve objectives. As a result, changes to management and associated impacts would be limited. Impacts on wild horse and burro management would therefore be most likely to occur in CHZ and IHZ but would be limited in nature.

Avoiding construction of new fences within 1.2 miles (2 km) of leks could reduce barriers to wild horse and burro movement as compared to Alternative A. Considering GRSG habitat needs and risks when designing and locating new water developments may limit water



developments which could result in a need to reduce AMLs in HMAs where alternative water sources are not available, especially in drought situations.

Impacts from Recreation Management and Visitor Services

Impacts would be similar to those described under Alternative B. Seasonal and site-specific limits on OHV travel in GRSG habitat could impact management options for gathers; however, administrative access allowances may limit impacts. These restrictions also could limit disturbances on wild horses and burros from other recreational users.

Impacts from Lands and Realty Management

Under Alternative E, ROW avoidance areas in CHZ and IHZ, as well as the exclusion of new infrastructure in CHZ, would somewhat limit the indirect impacts of development and associated disturbance on wild horses and burros.

Impacts from Energy and Minerals Mineral Management

Impacts from mineral and energy development are generally the same as those described under Alternative A. Fluid mineral development would have some additional restrictions applied to limit disturbance; therefore, the likelihood of development and associated disturbance would be reduced in areas with potential for these resources.

4.4.9 Alternative F

Impacts from Vegetation Management

Management actions under this alternative are similar to those described under Alternative B. For invasive species management, activities that spread invasives would be restricted. As described under the range management section, restrictions on water developments may apply, with potential impacts on wild horses and burros. However, there is the potential that less water would be necessary under Alternative F, due to the reduction in AMLs in the planning area.

Impacts from Wild Horse and Burro Management

Under Alternative F, proposed management includes an objective for 25 percent reduction in WHB populations in GRSG habitat compared to current AML levels within PPMA and PGMA. As a result, costs for management, particularly related to gathers, would increase above Alternative A due to the need to conduct additional gathers and/or increase fertility control measures. Location specific population reductions and impacts on particular HMAs would be determined at implementation and likely related to land health and current population size.

Other management actions for horse and burros and related impacts are similar in nature to those described under Alternative B.

Impacts from Wildland Fire Management

Impacts from Wildland Fire Management are similar to those described under Alternative B and all action alternatives; actions to suppress and control the spread of wildfire under Alternative F could decrease the risk of disturbance from wildfire for HMAs in GRSG

habitat. HMAs outside of GRSG habitat would be at a lower priority level for fire suppression efforts, and may have higher risk of loss of forage from fire.

Closures in place for livestock grazing post-fire until woody and herbaceous cover achieve GRSG habitat objectives could result in long-term (10 to 50 years or longer) exclusion from burned sites and barrier to movement for wild horses and burros, as it would generally take more than a decade to reestablish adequate Wyoming sage cover in low precipitation areas. The level of impacts would depend on locations, size, and intensity of wildfire in GRSG habitat in relation to location of HMAs.

Impacts from Livestock Grazing/Range Management

Under Alternative F, 25 percent of the area in PPMA/PGMA open to livestock grazing would be rested each year and utilization would be limited to 25 percent of current levels; therefore AUMs for livestock would correspondingly be reduced. As described in Alternative C, a reduction in areas available for livestock grazing could result in additional forage available for wild horses and burros. In addition, a prohibition on new water developments and requirements to make modifications, including potential dismantling of developments would be in place. As a result, there would likely be impacts on the availability of water sources for wild horses and burros. This could result in impacts on the ability to manage for AML, particularly for those HMAs with no alternate water source. Alternative F also calls for avoiding all new structural range developments in occupied GRSG habitat, unless independent peer-reviewed studies show that the range improvement structure benefits GRSG. In practice, this would result in few range developments being approved. The lack of new fences would benefit wild horses and burros by reducing barriers to movement across the range.

Impacts from Recreation and Visitor Services Management

Impacts are similar to those described under Alternative B.

Impacts from Energy and Minerals Management

Under Alternative F, no new mining claims would be allowed, and salable minerals sales would be prohibited in PPMA. Therefore, there would be limited potential from development-related disturbance of these resources on wild horses and burros. Impacts from leased fluid minerals are the same as those described under Alternative A. New leasing in PPMA and PGMA would be limited, so there is some limited opportunity for disturbance from development of these resources.

4.5 Wildland Fire Management

4.5.1 Methods and Assumptions

Indicators

Indicators of impacts on wildfire management are as follows:

- Alteration of vegetative cover that is likely to result in a substantial shift in fire regime condition class (FRCC) across the planning area



- A substantial change in the likelihood or severity of wildfire, based on level of restrictions on uses that may introduce sources of ignition
- Management actions that substantially inhibit a response to wildfire or appropriate treatments to prevent wildfire

Assumptions

The analysis includes the following assumptions:

- The spread of invasive annuals (e.g., cheatgrass) has lengthened the fire season in many parts of the planning area. These species often cure sooner than native perennial species and are more prone to ignition. Therefore, actions that reduce the spread or footprint of invasive annuals or restore perennial vegetation communities would reduce the frequency and intensity of wildfires, while reducing wildfire management costs.
- Fuels treatments using chemical methods are likely to be the most effective in reducing fine fuels and fire intensity and severity.
- Fire is an important functional natural disturbance in many of the ecological systems found in the planning area.
- A direct relationship exists between fuel loading and potential fire intensity and severity.
- Demand for fuels treatments would likely increase over the life of this plan.

4.5.2 Nature and Type of Effects

Impacts on wildfire management result from changes in fire frequency and intensity and the ability to employ fire-suppression methods, both of which would affect management of fire and related costs within the planning area. As discussed in **Section 3.7**, most of the lands in the decision area have moderate to high levels of departure from historic conditions and related fire risk. Actions that change condition class from highly altered ecosystems to one closer to historical conditions could reduce the risk of key ecosystem loss, as well as decrease fire risk and management costs in the long term.

Many different resource uses may introduce additional ignition sources into the planning area. This increases the probability of wildfire occurrence and the need for fire-suppression activities. Fire intensity can be affected by activities that decrease fuel loading, such as vegetation treatments and timber product harvesting, and activities that alter the composition and structure of vegetation communities. High-intensity fires generally result in a greater loss of vegetation cover, changes to soil chemistry, damage to root structures, and a greater ability for nonnative species to become established (Verma and Jayakumar 2012).

Transportation and travel management can impact fire frequency by changing the level of risk of human-caused ignitions. The risk of ignition is increased where travel is less restrictive, particularly where motorized vehicles travel cross-country. All forms of travel encourage the spread of invasive weeds, particularly cheatgrass, which can shift fire regimes

and increase fire behavior potential. Conversely, if management were to restrict access, wildfire risk may decrease. In addition, transportation management may impact fire suppression; when routes are closed and rehabilitated, they become unavailable for response to wildfires, limiting access opportunities.

Similarly, the level and type of recreation permitted can impact fire risk. Increased recreation may increase the probability of unintentional fires from human-caused ignitions and the need for fire suppression. Recreation management may reduce this risk by providing targeted activities and outcomes.

Surface disturbance caused by development would generally contribute to the modification of the composition and structure of vegetation communities (including increases in noxious weed proliferation) around developed areas. This would then be more likely to fuel high-intensity fires, which could increase program costs because of the increased potential for fire.

Lands and realty actions may indirectly result in development and associated fire risk. For example, issuing ROWs can result in indirect impacts by increasing the risk of human-caused ignition should transmission lines, renewable energy projects, or other development be constructed.

Likewise, the development of energy and minerals may increase the risk of wildfires by introducing new ignition sources (Shlisky et al. 2007). Associated facilities, infrastructure, and transmission lines can increase fire and fuels program costs, while decreasing fire management flexibility to respond to sub-regional conditions with regard to suppression options. Energy development also poses hazards to firefighters, including unknown toxins, facility protection, evacuation of industry personnel, and dangerous overhead power lines. Fire programs could incur additional costs to train firefighting personnel for emergency situations associated with energy development.

Additional limitations on mineral development would have an indirect effect of decreased fire. This would be due to less development, fewer vehicles, and less construction equipment, all of which would serve to decrease the chance of human ignition. Development of federal minerals underlying nonfederal lands may impact fire management on BLM- and Forest Service-administered lands when developed. This is particularly the case when ownership is in a patchwork pattern, as fires ignited on nonfederal lands may quickly spread onto and impact BLM- and Forest Service-administered lands.

Invasive species establishment or increase may follow construction and could impact fire management actions through increased risk of fire and need for fire management. If treatments in annual infested areas use an approved herbicide, those treatments would generally experience greater levels of success.

Prioritizing fuels treatments in areas dominated by invasive species would reduce the frequency and intensity of wildfire. The spread of invasive species, which cure earlier in the spring or summer, has lengthened the fire season in many parts of the planning area. If these



areas revert to a perennial dominated community, the fire season would generally be shortened by two to four months, depending on moisture, weather, and other factors.

Range grazing management can impact the ability to manage fire as a natural process through changes in fine fuels availability (e.g., grasses). Livestock grazing reduces fuel loads, so retiring allotments may increase fuels in specific sites. Conversely, increasing AUMs could reduce fuel loads.

Vegetation and weed treatments that decrease standing vegetation could decrease the intensity of wildfires and allow fires to be more easily controlled. For example, efforts to reduce incursion of nonnative annual grasses (primarily cheatgrass) and proliferation of other noxious and invasive weeds would promote healthy plant communities and an associated lower risk of high-intensity wildfire (USGS 2006). Used appropriately, prescribed fire would be compatible with noxious weed control; however, the presence of noxious weeds and the potential of weeds to spread after a prescribed fire would need to be monitored on a site-specific basis. Conversely, management actions that retain shrub and cover may increase fuel loading and the likelihood and intensity of wildfire.

Management actions that are intended to improve, create, or reestablish healthy ecological conditions in various vegetation types benefit the fire and fuels program in the long term. They do this by promoting the most efficient use of fire and fuels management program resources. Conversely, prioritizing fire suppression can limit management options and increase costs for fire management programs.

Special designations, such as ACECs and sensitive resource management, can restrict fuels treatments on a site-specific basis. For example, in areas where preservation of particular species or habitats is emphasized, management options and fuels treatments may be limited. Conversely, restrictions on resource uses, such as travel and mineral extraction, in special designations areas could reduce fire risk in these locations.

Implementing management for the following resources would have negligible or would have no impact on wildfire management; therefore they are not discussed in detail: air quality, soil resources, water resources, wild horses and burros, cultural resources, paleontological resources, visual resources, wilderness characteristics, cave and karst resources, forestry, socioeconomics, and environmental justice.

4.5.3 Impacts on Wildland Fire Management Common to All Alternatives

The nature and type of impacts described below are common to all alternatives, but the context and intensity may vary by alternative.

Impacts on wildland fire management common to all alternatives include changes in fire frequency and intensity, and the ability to use fire suppression methods, all of which would affect management of fire within the planning area. Many different resource uses may introduce additional ignition sources into the planning area, which increases the probability of wildfire occurrence and the need for fire suppression.

Fire intensity can be affected by activities that decrease fuel loading, such as vegetation treatments and timber product harvesting, and activities that alter the composition and structure of vegetation communities. High-intensity fires generally result in a greater loss of vegetation cover, changes to soil chemistry, damage to root structures, and a greater ability for nonnative species to become established. Resource and special designation restrictions may limit fire suppression tactics and fuels treatment methods.

Impacts from Lands and Realty Management

Under all alternatives, issuance of power line ROWs would increase access and program costs because of the increased potential for fire in the ROW. There may also be slightly higher risk of human-caused ignitions from construction, maintenance, and use of power line ROWs. As new ROWs are developed, additional fuels treatments are necessary to address potential impacts from wildland fires.

Critical infrastructure ROW corridors would need maintenance throughout their life to keep vegetation at a level that would moderate fire behavior and allow for some protection from an unplanned wildfire. Vegetation maintenance would ensure that critical infrastructure would not fail at a time of need, such as during a wildfire.

Impacts from Habitat Restoration and Vegetation Management

Under all alternatives, the BLM and Forest Service would manipulate vegetation, use prescribed fire or manage unplanned wildfire for LUP objectives. This would affect the wildfire management program by reducing costs and potential for large, damaging wildland fires.

Vegetation treatments could also reduce fuel loading, which would affect fire intensity and allow fires to be more easily controlled.

Impacts from Invasive Species Management

Under all alternatives, invasive species treatments could reduce fuel loading, which would affect fire intensity and allow fires to be more easily controlled.

Impacts from Wildland Fire Management

Under all alternatives, management actions that are intended to improve, create, or reestablish healthy ecological conditions in various vegetation types would benefit the fire and fuels program. They would do this by promoting the most efficient use of fire and fuels fire management program resources. In addition, allowing a range of fuel treatment options and the possibility of unplanned wildfire for resource benefit provides needed management flexibility to reduce large fire costs and achieve fire and fuels goals and objectives.

Impacts from Minerals Management

The development of minerals resources may increase the risk of wildfires by introducing new ignition sources, although initial mine development also removes fuel sources by stripping the immediate area of vegetation. Facilities, infrastructure, and transmission lines can increase fire and fuels program costs, while decreasing fire management flexibility with regard to suppression options. Energy development also poses hazards to firefighters,



including unknown toxins, facility protection, evacuation of industry personnel, and dangerous overhead power lines. Fire programs could incur additional costs to train firefighting personnel for emergencies associated with energy development.

The road infrastructure supporting energy and minerals development would provide increased accessibility to remote areas for fire suppression. Roads also provide fuel breaks in the event of wildfire.

Impacts from Recreation and Visitor Services Management

Under all alternatives, restrictions on recreation use would decrease the potential for human-caused ignition.

Transportation and recreation access also increase the risk of human-caused ignitions. All forms of travel encourage the spread of invasive weeds, particularly cheatgrass, which can shift fire regimes and increase fire behavior potential. When routes are closed and rehabilitated, they become unavailable for response to wildfires, limiting access opportunities and potentially delaying fire management actions.

Impacts from Livestock Grazing Management

Under all alternatives, livestock grazing may reduce fuels loading in certain areas. The impact would be greatest where grass fuel types are the main carrier of the fire.

4.5.4 Alternative A

Impacts from Lands and Realty Management

Current impacts would continue as would the increased risk of human-caused ignitions where power line ROWs are developed and operated.

Impacts from Habitat Restoration and Vegetation Management

Vegetation management and weed treatments would continue to decrease both standing and downed vegetation (i.e., fuel load) across the planning area. This would decrease the intensity of wildfires and allow them to be more easily controlled. These activities would also modify the composition and structure of vegetation communities by creating mosaic vegetation patterns and natural fuel breaks and by promoting healthy, diverse vegetation communities that generally fuel low-intensity fires. Specifically, efforts to reduce the incursion of nonnative annual grasses (primarily cheatgrass), the encroachment of shrubby vegetation, the buildup of biomass in forested areas, and the proliferation of noxious and invasive weeds would help to achieve this effect. Similarly, treatments for habitat improvement and forage would reduce fuels and reduce the likelihood for stand-replacing fire.

Impacts from Invasive Species Management

On average, the planning area would continue to experience a five- to seven-month fire season due to invasive annuals curing earlier than the perennial vegetation and being prone to ignition. Without targeted management actions in GRSG habitat to convert vegetation communities back to a perennial dominated community, there would continue to be an increased risk of wildfire over a longer period of time each year.

Impacts from Wildland Fire Management

The wildland fire management program would continue to be impacted by the spread of invasive annuals, which results in a longer fire season and the need for more resources to respond. There would also be a continued decrease in the hazardous fuels reduction program's ability to maintain reactive suppression and rehabilitation efforts in the wildland-urban interface (WUI).

Impacts from Nonenergy Leasable Minerals Management

Current impacts would continue and nonenergy mineral development would continue to pose an ignition risk.

Impacts from Locatable Minerals Management

Current impacts would continue and locatable mineral extraction would continue to pose an ignition risk.

Impacts from Salable Minerals Management

Current impacts would continue and mineral material disposal activities would continue to pose an ignition risk.

Impacts from Unleased Fluid Minerals Management

Unleased fluid minerals management would continue to have no detrimental impact on fire risk or management because there would be no surface-disturbing activities from fluid mineral leasing or development.

Impacts from Leased Fluid Minerals Management

Current impacts would continue and fluid mineral development would continue to pose an ignition risk.

Impacts from Recreation and Visitor Services Management

Recreation use would continue to increase the risk of human-caused ignitions, especially in areas with high visitation.

Impacts from Livestock Grazing Management

Grazing would continue to reduce fuels loading in certain areas. Impacts on the wildland fire management program would continue to be greatest where grass fuel types are the main carrier of the fire.

Impacts from Special Designations Management

Current impacts would continue, and there would be less management flexibility for fuels treatments and wildfire response in existing ACECs.

4.5.5 Alternative B

Management under Alternative B would focus on restrictions on resource uses and protection for and enhancement of sagebrush habitat. In general, this would reduce the risk of human-caused ignitions and would encourage a return to historic FRCC in sagebrush habitat. Use restrictions could also minimize the spread of invasive species by limiting



human activities that disturb the soil disturbance or introduce seeds. This would likely reduce the frequency and intensity of wildfire. However, restrictions on response to wildfire could limit management options and increase costs for fire management programs.

Impacts from Lands and Realty Management

Limiting new development in PPMA to existing footprints would reduce opportunities for human-caused ignitions. The rest of the decision area would continue to experience current levels of risk for human-caused ignitions and the resultant shift in FRCC.

Impacts from Habitat Restoration and Vegetation Management

Prioritizing the reestablishment of sagebrush cover would promote a shift towards historic FRCC in sagebrush ecosystems. Vegetation treatments could reduce fuel loading, which would affect fire intensity and allow fires to be more easily controlled. Vegetation treatments also create early seral stage vegetation communities, which generally fuel low-intensity fires.

Active restoration of cheatgrass infestation areas in PPMA would result in less frequent or intense wildfires as native perennial species are reestablished.

Impacts from Invasive Species Management

An increased potential for invasive species treatments in grazing allotments in PPMA would decrease the intensity of wildfires and allow fires to be more easily controlled.

Impacts from Wildland Fire Management

Designing and implementing fuel breaks to protect existing sagebrush would discourage further shifts away from historic FRCC in these areas.

Using livestock in certain cases to reduce fine fuels would reduce the likelihood and severity of wildfire.

In PPMA, prioritizing suppression in GRSG habitat immediately after fire, and then property, could limit management options and increase costs for the fire management program. However, the focus on suppression could also limit expansion of cheatgrass because fire increases opportunities for invasive species, such as cheatgrass, to expand (Brooks et al. 2004).

As a last resort in PPMA, the use of prescribed fire for fuel breaks that would disrupt the fuel continuity across the landscape could be considered in stands where cheatgrass is a minor component in the understory. Although this action would only be undertaken if all other treatment options have been explored, it would reduce the likelihood and severity of wildfire.

If livestock grazing, travel management, and other activities were to affect the success of restoration projects, management could be changed to encourage a higher success rate. This would help stabilize shifts in FRCC and reduce the likelihood and severity of wildfire by implementing more successful restoration projects across the planning area.

Impacts from Nonenergy Leasable Minerals Management

Prohibiting new leases in PPMA would reduce opportunities for human-caused ignitions. The rest of the decision area would continue to experience current levels of risk for human-caused ignitions and the resultant shift in FRCC.

Impacts from Locatable Minerals Management

If PPMA is withdrawn from mineral entry, there would be fewer opportunities for human-caused ignitions.

Impacts from Salable Minerals Management

Restoring salable mineral pits in PPMA would result in a temporary increase in the potential for human-caused ignitions. However, prohibiting mineral material sales in PPMA would reduce opportunities for human-caused ignitions over the long term.

Indirect impacts would reduce invasive species when salable mineral pits are restored. This would reduce the frequency and intensity of wildfire and promote the establishment of native perennial species that are less combustible.

Impacts from Unleased Fluid Minerals Management

Closing PPMA to leasing and letting existing leases expire would reduce future opportunities for human-caused ignitions. Geophysical exploration, especially when using overland travel, could temporarily increase the potential human-caused ignitions.

Over the long term, closures would protect against nonnative invasive species introduction, which would reduce the frequency and intensity of wildfire.

Impacts from Leased Fluid Minerals Management

Conservation measures in PPMA, including prohibiting new surface occupancy, would limit increased risk for human-caused ignitions.

Impacts from Recreation and Visitor Services Management

Limiting special uses in PPMA to those that are neutral or beneficial to GRSG could result in use restrictions that may reduce the risk of human-caused ignitions.

Impacts from Livestock Grazing Management

Potential restrictions on grazing, including retiring allotments, in PPMA could increase fine fuels and thus the severity of wildfires.

Evaluating, and potentially introducing, exotic grass seedings could increase the risk of wildfire, depending on the attributes of and range where the grass species is introduced.

Limiting the types of range improvements allowed in PPMA would decrease opportunities for human-caused ignitions during construction or maintenance.

Impacts from Special Designations Management

Impacts are the same as under Alternative A.



4.5.6 Alternative C

The complete removal of livestock grazing would reduce weed spread via livestock vector and could increase fire intensity due to heavier fuel loads from lack of fuel removal. In the short term, fuel buildup might lead to bigger fires, while in the long term, if weed spread were reduced, fewer fires may result. Ultimately, the effect of no grazing on fire frequency would be dependent on weather conditions at the time of ignition.

Impacts from Lands and Realty Management

Limiting development in occupied habitat to existing footprints would reduce opportunities for human-caused ignitions. The rest of the decision area would continue to experience current levels of risk for human-caused ignitions and the resultant shift in FRCC.

Impacts from Habitat Restoration and Vegetation Management

Impacts are similar to those under Alternative B.

Impacts from Invasive Species Management

There are no management actions for invasive species management, and impacts are the same as under Alternative A.

Impacts from Wildland Fire Management

Impacts are similar to those under Alternative B, except that occupied habitat would be managed in good or better ecological condition to reduce the unnatural frequency and intensity of wildfire.

Impacts from Nonenergy Leasable Minerals Management

Impacts are the same as under Alternative B.

Impacts from Locatable Minerals Management

Impacts are the same as under Alternative B.

Impacts from Salable Minerals Management

Impacts are similar to those under Alternative B.

Impacts from Unleased Fluid Minerals Management

Impacts are similar to those under Alternative B.

Impacts from Leased Fluid Minerals Management

Impacts are similar to those under Alternative B.

Impacts from Recreation and Visitor Services Management

Impacts are similar to those under Alternative A.

Impacts from Livestock Grazing Management

Eliminating grazing from the decision area would increase some pressures on the wildland fire management program, while lessening others. In either case, the impact would be greatest where grass fuel types are the main carrier of the fire. For example, in areas

dominated by grass fuel types, there would be no reduction in fine fuels, and the frequency and intensity of wildfires would increase. However, because the prohibition on grazing would reduce weed spread, some areas, in conjunction with efforts to reintroduce perennial vegetation, may experience a shorter fire season and less frequent or intense wildfires.

Impacts from Special Designations Management

Restrictions associated with the management of 39 new ACECs (covering 3.6 million acres of GRSG habitat) may limit fire suppression tactics and fuels treatment methods. ACEC designations may also result in fewer human ignitions due to restrictive management actions.

4.5.7 Alternative D

With an emphasis on balancing resources and resource use among competing human interests, land uses, and the conservation of natural resources, this alternative would reduce FRCC shift and would result in a more natural (i.e., historic) frequency and intensity of wildfire.

Impacts from Lands and Realty Management

Certain uses would be excluded in PPMA, reducing the type of development allowed in those areas. This restriction would limit opportunities for human-caused ignitions. There would be no similar restrictions in PMMA or PGMA, meaning the reduction in ignitions would be confined to a smaller area than under other alternatives.

Impacts from Habitat Restoration and Vegetation Management

Alternative D proposes a more defined set of tools for wildfire management than other alternatives. In most instances, Alternative D allows for management flexibility to respond to sub-regional conditions in designing fuels treatments and response to wildfire. For example, in PPMA the use of chemical, mechanical, and seeding treatments with appropriate plant materials is emphasized to prevent the dominance of invasive weeds. This would allow a greater success of those treatments. Using mechanical and chemical treatments to prepare areas in FRCC2 and FRCC3 for prescribed fire would have a similar impact.

Strategic wildland fire planning would help return PPMA to historic FRCC and natural fire intensities and intervals. Key actions driving this impact are as follows:

- Strategically placed fire-resistant vegetation or green-strip seedings
- Strategically placed pretreated areas that reduce fine fuels by such practices as mowing vegetation along roadsides, implementing grazing strategies, and applying herbicides
- Planned wildfire suppression tactics in important GRSG habitat

Prioritizing wildfire suppression in PPMA and conducting burn-out/backfiring operations in a manner that minimizes the loss of sagebrush may have limited ability to restore historic FRCC in PPMA.



Impacts from Invasive Species Management

Education, inventory, prevention, control, rehabilitation, and monitoring would be emphasized. By limiting the spread of invasive species, more GRSG-occupied habitat would be retained as a perennial-dominated community, which has a shorter fire season than those communities characterized by invasive annuals (which cure earlier in the year and are more prone to ignition).

Impacts from Wildland Fire Management

Wildland fire management under Alternative D is similar to Alternative B, with additional management flexibility and guidance incorporated to tailor management to specific vegetation communities. The BLM and Forest Service would prioritize wildfire suppression planning and would consider targeted grazing to reduce fine fuels in PPMA. As a result, FRCC shift would be reduced and the frequency and intensity of wildland fire would be more natural. This is because post-fuel, restoration, and ESR management would be designed to ensure long term persistence of seeded or pre-burn native plants.

Likewise, several actions would improve the success of fuels treatments in PPMA. Specifically, ensuring chemical applications are used in fuels treatments and pretreating areas to reduce fine fuels through mechanical treatments, grazing strategies, chemical or biological application would dramatically improve the fuel program's ability to improve GRSG habitat conditions.

When reseeding following fire, using species varieties that are adapted to a warmer climate may, in combination with potential climate change, reduce potential for unnatural levels of fire frequency and intensity.

Stationing first response firefighting resources to higher fire occurrence areas would reduce response time.

Impacts from Nonenergy Leasable Minerals Management

Seasonal limitations and restrictions on development near leks would reduce the potential for human-caused ignitions.

Impacts from Locatable Minerals Management

Valid claims would require additional mitigation within GRSG habitat, likely resulting in site-specific improvements to FRCC and wildfire intensity and frequency.

Impacts from Salable Minerals Management

The types of impacts are similar to those under Alternative B, except that prohibitions on mineral material disposal would extend only to areas around occupied leks. This would reduce the area where there would be lower risk of human-caused ignitions.

Impacts from Unleased Fluid Minerals Management

There would be several measures (e.g., TL and NSO stipulations and RDFs) restricting surface disturbance that would reduce the potential for human-caused ignitions.

Impacts from Leased Fluid Minerals Management

Allowing exploration and drilling on leased areas in PPMA from July through November would increase the risk of human-caused ignitions. Off-site mitigation requirements for new developments in PPMA could encourage a return to historic FRCC in areas where mitigation is implemented.

Impacts from Recreation and Visitor Services Management

Restricting SRPs in sensitive seasons or in PPMA could result in temporary and site-specific reductions in human-caused ignitions.

Minimizing adverse recreation effects on GRSG within recreation management areas that overlap PPMA could result in use restrictions that may reduce the risk of human-caused ignitions.

Impacts from Livestock Grazing Management

Impacts are similar to those under Alternative B.

Impacts from Special Designations Management

Impacts are the same as under Alternative A.

4.5.8 Alternative E

Alternative E focuses primarily on management for the threats of wildfire, invasive species, and large infrastructure projects. Secondly it focuses on the threats of livestock grazing management and infrastructure, West Nile virus, and recreation. It recommends use of an adaptive management approach and implementation of triggers or thresholds that adjust zone criteria. Guidance to reduce wildfire response time, create fuel breaks, and improve the wildfire suppression baseline would increase demand on the wildland fire management program; however, it would result in long-term improvements in FRCC and lowered risk of wildfire.

Impacts from Lands and Realty Management

Impacts are similar to those under Alternative B.

Impacts from Habitat Restoration and Vegetation Management

Development of a restoration strategy for vegetation management would help focus priorities on the areas and communities identified as most pertinent to restoring sagebrush and GRSG habitat. This would constrain or reverse the current trend toward areas becoming dominated by invasive annuals that are more prone to ignition.

Native vegetation would be used for restoration to the extent practicable. In addition, invasive species would be controlled for three years after wildfire treatments. Together, these actions would reduce the likelihood for weed invasion in burned or treated areas, thus reducing the frequency and intensity of wildland fires.



In Utah, reducing or eliminating the spread of invasive species, particularly cheatgrass, after a wildfire, is a high priority. If the spread of cheatgrass is slowed or stopped, these areas would be at lower risk for intense large-scale fires.

Impacts from Invasive Species Management

This alternative promotes active and aggressive control of invasive species, which would likely reduce the likelihood of large-scale wildfires.

Eradicating or controlling invasive weeds in GHZ may help some areas revert to perennial vegetation types, which would shorten the fire season and reduce the risk of large-scale wildfires.

Weed treatments in IHZ and GHZ would decrease fuel loads and vegetation density across these areas. Management flexibility would decrease the intensity of wildfires and allow them to be more easily controlled. Likewise, in IHZ, the use of chemical and mechanical methods to eradicate or control invasive species would result in more successful treatments and long-term reduction in fire frequency and intensity.

Impacts from Wildland Fire Management

Reducing the number and size of wildfires in CHZ (in accordance with updated IM 2013-128) would allow for more efficient management of wildfire program resources and would reduce risks to firefighters and public safety. The adaptive construct of Governor's Alternative provides a mechanism to protect GRSG from habitat loss due to wildfire. The short-term use of triggers and zones will provide the time to develop more proactive measures that demonstrate long-term success on the landscape. Fuel breaks will be implemented in priority areas to minimize the size of wildfires and reduce need for firefighting resources.

Close coordination with federal, state, and private firefighting personnel, local fire departments and local expertise, such as RFPAs, will improve strategies for initial attack and developing comprehensive fuel break strategies to minimize and reduce the size of wildfires threatening the CHZ and IHZ following ignition. The employment of specific, more aggressive wildlife and invasive species management practices to prevent further encroachment into the CHZ and IHZ should be driven by local planning efforts at the field office and ranger district level. The creation of RFPAs will ensure better and faster initial attack on wildfires threatening the CHZ and IHZ through the employment of additional trained firefighters and resources in rural parts of the GRSG Management Area. This management action is more likely to be used on areas with high fuel loads that are at a high risk of fire threatening CHZ and IHZ.

Impacts from Nonenergy Leasable Minerals Management

There would be 1,119,800 acres closed to leasing and nonenergy minerals development. This would prevent any human-caused ignitions in this area. In areas open to leasing there would be multiple restrictions (e.g., timing, locational, and a five percent disturbance cap within nesting, winter, or other habitat in priority habitats) on development that would reduce the potential for human-caused ignitions.

Impacts from Locatable Minerals Management

Impacts are the same as under Alternative A.

Impacts from Salable Minerals Management

Impacts in Idaho are the same as under Alternative A. In Utah, restrictions near leks and during certain times of the year would reduce the potential for human-caused ignitions.

Impacts from Unleased Fluid Minerals Management

Impacts in Idaho are the same as under Alternative A. In Utah, restrictions near leks and during certain times of the year would reduce the potential for human-caused ignitions.

Impacts from Leased Fluid Minerals Management

Impacts in Utah are similar to those under Alternative A. In CHZ and IHZ in Idaho, restrictions on development would result in the same type of impacts as described under Alternatives B and D.

Impacts from Recreation and Visitor Services Management

There would be numerous site-specific and seasonal restrictions on recreation facilities and activities near leks and during nesting, winter, and other priority habitats. These restrictions would limit human activity and the associated ignition risks.

Impacts from Livestock Grazing Management

Targeted grazing would be allowed to reduce fine fuels, resulting in less need for mechanical or chemical fuels treatments. However, efforts to reduce grazing in CHZ and IHZ may increase fuels loading if they overlap with areas where grass fuel types are the main carrier of fire.

In Idaho CHZ, improving management of livestock in existing disturbed sites (e.g., seedings or cheatgrass sites) would complement hazardous fuels reduction program efforts, especially if the targeted grazing were to occur in the WUI.

Impacts from Special Designations Management

Impacts are the same as under Alternative A.

4.5.9 Alternative F

Alternative F closely mirrors management direction proposed in Alternative B but prescribes additional and more restrictive conservation measures. These measures would generally reduce the risk of human-caused ignitions but may reduce management flexibility for fuels treatments and other actions to reduce the long-term risk of wildfire.

Impacts from Lands and Realty Management

Impacts are similar to those described under Alternative B; however, Alternative F would not allow for exceptions to disposal criteria, which would reduce management flexibility and could have implications for fuels treatment effectiveness. Managing priority areas as exclusion areas for new ROW permits would reduce the amount of ROW development and associated risk for human-caused ignitions.



Impacts from Habitat Restoration and Vegetation Management

Impacts are the same as those described under Alternative C.

Impacts from Invasive Species Management

There would be little emphasis on treatments or other methods of invasive species control and consequently a greater risk for increased fuel load and vegetation density across the decision area. Areas dominated by invasive annuals would experience a longer fire season, increasing wildfire management costs.

Impacts from Wildland Fire Management

Wildland fire management under Alternative F would be similar to Alternative B, though Alternative F would require post-fire exclusion of grazing. Constructing livestock exclosures to monitor fire restoration progress would lead to more efficient fire restoration methods and associated improvements in wildland fire program resource allocations. Mowing grass in any fuel break may be less effective than other mechanical methods. This could result in less of a reduction in large fire costs than under other alternatives where there is greater management flexibility.

Impacts from Nonenergy Leasable Minerals Management

Impacts are the same as under Alternative B.

Impacts from Locatable Minerals Management

Impacts are the same as under Alternative B.

Impacts from Salable Minerals Management

Impacts are the same as under Alternative B.

Impacts from Unleased Fluid Minerals Management

Allowing existing leases to expire would reduce the long-term potential for human-caused ignitions. Geophysical exploration, especially when using overland travel, could temporarily increase the potential human-caused ignitions.

Impacts from Leased Fluid Minerals Management

Impacts are the same as under Alternative B.

Impacts from Recreation and Visitor Services Management

Impacts are the same as under Alternative B.

Impacts from Livestock Grazing Management

Impacts are the same as Alternative B except that AUMs would be reduced, meaning impacts from livestock grazing may decrease in intensity. The exact location of reduction in AUMs and related impacts from livestock grazing would be determined at project implementation.

Impacts from Special Designations Management

Designating 17 or 18 new ACECs and 12 new ZAs encompassing up to 7.8 million acres of GRSG habitat would result in impacts similar to those under Alternative C, but they would occur over a larger area.

4.6 Livestock Grazing/Range Management

4.6.1 Methods and Assumptions

Indicators

Indicators of impacts livestock grazing/range management are as follows:

- Changes in permitted AUMs in areas open to livestock grazing
- Changes in the type of livestock permitted on allotments
- Prohibitions or limitations on the construction or maintenance of structural and nonstructural range improvements
- Modifications to or removal of structural range improvements
- Closures of areas to livestock grazing for the life of the plan
- Changes to the timing, duration, or frequency of permitted use, including temporary closures

Assumptions

The analysis includes the following assumptions:

- All new and renewed leases and permits would be subject to terms and conditions determined to be necessary by the authorizing officer to achieve the management and resource condition objectives for BLM- and Forest Service-administered lands and to meet land health standards for BLM-administered lands and desired conditions on Forest Service-administered lands.
- Range improvements (e.g., fences, pipelines, water wells, troughs, and reservoirs) could create a localized loss of vegetation cover. Fencing would cause a temporary loss due to construction, whereas other types of improvements may cause vegetation loss for the improvements' useful life. Additionally, wells, troughs, and reservoirs might cause long-term vegetation loss due to repeated livestock disturbance where animals congregate, and would be revegetated only if abandoned. Vegetation would be reestablished through reclamation along water pipelines and naturally along fence lines within five years to the extent possible.
- The construction and maintenance of range improvements would continue in the decision area, and would vary according to the constraints imposed by each alternative. New range improvements would be subject to limitations, as defined in the plan. Range improvements are generally intended to improve livestock



distribution and management, which would maintain or improve rangeland health and could benefit the forage base and wildlife and GRSG habitat.

- By definition in this plan, livestock grazing is not considered a surface-disturbing activity, but it could affect the surface in areas where livestock concentrate, such as around range improvements.

4.6.2 Nature and Type of Effects

Impacts on livestock grazing are generally the result of activities that affect forage production, areas open to grazing, the class of livestock, the season of use and timing, the ability to construct and maintain range improvements, and impacts from human disturbance, including disruption of livestock movement or unwanted dispersal. Key types of impacts are detailed below.

Protecting GRSG habitat may directly affect livestock grazing if management requires limitations to areas open to grazing or available AUMs, modification of grazing strategies, or changes to season of use. This could increase the time and costs to permittees and lessees. For example, management actions to enhance habitat for GRSG could affect livestock grazing by restricting grazing intensity or season of use, retiring grazing privileges in some areas, or changing livestock rotation patterns in order to maintain residual herbaceous cover in sagebrush habitat (NTT 2011). The listed restrictions could also decrease opportunities for grazing, or even overall grazing operation viability (e.g., if no spring grazing areas are available).

However, managing vegetation to benefit GRSG may indirectly benefit livestock grazing by increasing vegetation productivity and improving forage in the long term. This would be the case especially where current conditions are not meeting land health standards. For example, in allotments with a history of intensive grazing, transitions in the composition of sagebrush communities may have occurred that have reduced cover or forage for GRSG (Cagney et al. 2010) and forage for livestock. However, when grazing management is put into place to promote health and vigor of the herbaceous community for livestock, this may also result in sufficient herbaceous cover to meet habitat requirements for breeding GRSG, such as those specified by Connelly et al. (2000). However, note that some areas would require additional active restoration, such as reseeding native grasses and forbs or controlling invasive species.

Vegetation management designed to curb the incursion or encroachment of nonnative annual grasses and shrubs could reduce forage availability in the short term. However, these treatments generally enhance rangeland conditions in the long term (NTT 2011).

Unregimented livestock grazing can have adverse impacts on riparian ecosystems (Armour et. al 1991); therefore, managing riparian habitat can directly impact livestock grazing through excluding livestock at specific sites, increasing herding, adding range improvements (such as cross fences and water gaps), and adjusting season of use and livestock numbers. Managing riparian habitat to maintain PFC is required for BLM-administered lands. It benefits grazing livestock by indirectly providing cleaner and more reliable water sources and more dependable forage availability. The BLM has been managing riparian and wetland areas

for these objectives since at least 1997, though additional impacts could occur as additional management needs are identified and implemented.

Protecting water quality and watershed health is a requirement of standards and guidelines as well as state and federal water quality standards. If additional management needs are identified and implemented, changes could be required in livestock management, such as deferring or shortening grazing periods, adding range improvements, excluding grazing from riparian areas, establishing riparian pastures, and increasing livestock herding. In areas requiring exclusion of livestock or other restriction on livestock management, these limitations could increase costs to permittees and lessees if changes reduced AUMs or increased livestock management costs.

Recreation can affect livestock grazing directly through human disturbance and indirectly through rangeland degradation. Direct disturbance can include undesired animal dispersing or trespassing due to recreationists leaving gates open as well as animal displacement, harassment, or injury from collisions or shooting. It also can include damage to range improvements, particularly from the use of recreational vehicles or from sport shooting. Disturbance could occur during the hunting season due to increased presence of people, vehicles, and noise. Limitations on recreation in GRSG habitat could indirectly benefit livestock by reducing direct disturbances, but could also concentrate use in grazing allotments outside GRSG habitat, leading to more conflicts in those areas.

Other direct long-term recreation impacts include disturbance caused by increased levels of human activities. The degree of impacts would vary with the intensity of recreation (that is, large numbers of people for SRP use would likely have a higher level of disturbance than frequent use by a small number of visitors), the timing of recreation (for example, livestock could be more susceptible to disturbance during the spring when young are present), and location of recreation in the allotment (for example, a higher level of disturbance could occur near areas frequented by livestock, such as water sources or salt licks). As stated above, limitations on recreation in GRSG habitat could indirectly benefit livestock by reducing direct disturbances.

Limits on construction or use of transportation routes may affect livestock grazing practices. Road construction may cause loss of forage, harassment, and displacement; thus, reduction of these activities may benefit livestock by reducing disturbances. Closing roads or trails not leading to range improvements would also increase forage availability when the area is rehabilitated or when natural rehabilitation occurs. Limitations on cross-country travel may impact permittees' and lessees' ability to effectively manage livestock if exemptions are not granted for access to allotments. Travel management actions for GRSG protection generally involve increased limitations or restrictions on travel management.

Wildfire alters sagebrush habitat because sagebrush takes a long time to regenerate, which may allow for invasive species to take hold (NTT 2011). Wildland or prescribed fire would remove vegetation and forage over the short term; however, they can increase forage a few years post-fire as herbaceous vegetation increases and woody vegetation is removed or



reduced. Impacts on livestock operations could also occur when agency policies require a rest period following rehabilitation and before grazing is reestablished.

Changes in wildfire suppression and fuels management to protect GRSG habitat would have varying effects on livestock grazing. Measures to protect sagebrush habitat might reduce the spread of wildfire and the associated disruption to livestock management. Use of livestock to manage fuel loads may provide some increased opportunities for grazing at a site-specific scale and on a temporary basis.

The management of habitat for GRSG using natural disturbance regimes, such as fire, and using vegetative treatments to accomplish biodiversity objectives to improve plant community resilience could also benefit livestock grazing in the long term by maintaining a balance of seral stages. In general, removing encroaching junipers benefits livestock grazing by creating a healthier grass and forb community.

Restrictions on ROWs or land transfers may indirectly impact grazing by reducing construction impacts from developing these ROWs (such as dust, displacement, and introduction of noxious weeds). Lands and realty actions taken to protect GRSG habitat would involve avoiding or excluding ROWs (e.g., for power lines, pipelines, and other structures) or land transfers in GRSG habitat. These measures could slightly decrease disturbance in these areas. However, the areas outside of GRSG habitat to which ROWs development may be relocated could see an increase in construction-related effects and associated disturbance or displacement of livestock.

Energy and mineral development could impact grazing. During the exploration and testing phase of mineral development, the footprint of disturbance is usually small and localized; therefore, minimal acres available for grazing would be directly impacted. However, during the exploration phase, impacts on livestock dispersal and trespass could occur, increasing time and cost to permittees and lessees. Outside of the exploration and testing phase, surface-disturbing mineral development directly affects areas of grazing in the short term during construction of well pads, roads, pipelines, and other facilities. A potential impact is an increased potential for the introduction and proliferation of noxious weeds that lack the nutritional value needed for productive grazing practices. Other potential impacts are changes in available forage, limits on livestock movement, harassment, and temporary displacement of livestock. In the long term, a smaller amount of grazing acreage is permanently lost from mining following rehabilitation. Improving roads associated with mineral development could facilitate livestock management operations by maintaining or improving access to remote locations within allotments. Properly implemented BMPs and reclamation mitigation measures would likely maintain rangeland health and forage levels for livestock. Reducing mineral development in GRSG habitat could reduce potential impacts on grazing, described above.

Changes in livestock grazing management could impact grazing opportunities in a variety of ways. For example, implementing particular livestock grazing management requirements to benefit GRSG could affect livestock grazing by increasing operators' costs or changing required management actions. Some management requirements may result in short-term and

long-term increased costs to permittees and lessees, or AUMs could decrease for some permittees and lessees due to the following:

- Implementation of modification of a grazing strategy
- Change in season-of-use or livestock class
- Construction or modification of range improvements, when ability to disperse livestock is impacted
- Viability of existing operations could be compromised if seasons or areas of use are eliminated or severely restricted from grazing

These management requirements could result in economic impacts on individuals and the community at large, both direct and indirect. For example, if a ranch were dependent seasonally on forage on BLM- and Forest Service-administered lands, a reduction or elimination of AUMs on BLM- and Forest Service-administered lands may affect the entire ranching operation by reducing the total amount of available forage (Torell et al. 2002).

Some management changes may require a short-term output of cost for permittees and lessees and/or agencies but will result in long-term benefits. For example, construction of range improvements to improve livestock distribution and allow use of a larger portion of the rangeland would generally enhance rangeland health in the long term; however, it would have short-term costs. Constructing off-site water sources and fencing riparian and spring sources could keep livestock away from sensitive riparian areas and provide a cleaner more reliable source of water for livestock; however, it would represent an increased cost for permittees and lessees. Other requirements could increase annual operating costs, such as increased time feeding animals on private land, more complex pasture rotations or herding requiring increased labor and fuels costs for moving animals, or annually maintaining let-down fences.

In instances where an allotment is closed to grazing or AUMs reduced for GRSG objectives, the agency may have to compensate the permittee or lessee for the range improvement projects constructed under a range improvement permit or cooperative agreement, in accordance with 43 CFR 4120.3-6(c), and 36 CFR 222.6 (a).

ACECs may be designated to protect sensitive habitat for the benefit of GRSG. Grazing availability would depend on the designated ACEC management objectives. Restrictions could include reducing grazing in the ACEC and limiting the class of livestock animal or the season of use, duration, or location that livestock are allowed to graze.

4.6.3 Impacts on Livestock Grazing Common to All Alternatives

The nature and type of impacts described below are common to all alternatives, but the context and intensity may vary by alternative. Impacts on livestock grazing as described below are the same regardless of the alternative selected.



Impacts from Energy and Mineral Development

Impacts from Nonenergy Leasable Minerals Management

There are expected to be minimal impacts from nonenergy leasable minerals on livestock grazing across all alternatives due to a lack of leases in GRSG habitat.

Impacts from Coal Management

No economically viable coal resources are found in Idaho. Under the Dillon RMP, a plan amendment would be required to lease coal. As a result, coal development in the project area and related impacts on range management are likely to be limited under all alternatives.

Impacts from Recreation and Visitor Services Management

Under all alternatives, motorized vehicles would be limited to existing roads and trails, thereby limiting the impacts on livestock grazing from dispersed travel as discussed under **Section 4.5.2**. Access to authorized agency uses, such as grazing allotments, would not be impacted under any alternative. Site-specific travel management planning could, when completed, reduce the potential for conflicts between range management and travel management.

4.6.4 Alternative A

No management areas would be designated for GRSG under this alternative. In general Alternative A would be the least restrictive alternative on resource uses, including livestock grazing. As a result, lessees and permittees would have a range of management options to support grazing operations. This alternative would also be the least restrictive for other resource uses and associated development. Therefore, there is an increased chance of disturbance from mineral development, recreation, and other uses, as compared to action alternatives.

Impacts from Lands and Realty Management

Under Alternative A, there would be approximately 1,010,900 acres of ROW exclusion and 1,903,400 acres of avoidance areas in the decision area; no new ROW exclusion or avoidance areas would be created. Livestock could be disturbed from development of ROWs, as discussed under **Section 4.5.2**. For these reasons, this alternative would have the highest potential for impacts from lands and realty on range management; however, access to range improvements for maintenance would be the least restricted.

Impacts from Habitat Restoration and Vegetation Management, Including Invasive Species Management

Under Alternative A, restoration would continue in the planning area, with long-term benefits to livestock forage. Vegetation could be managed to improve forage, and impacts on range management from vegetation management would be minimal; however, these actions could require adjustment to livestock grazing management. Management actions for invasive species would continue under the direction of current management plans, with the focus on areas not meeting land health standards or desired conditions.

Impacts from Wildland Fire Management

Under Alternative A, mechanical treatments, prescribed fires, and other treatments would be used to prevent conifer encroachment and remove undesirable annual grass and weed species. These actions could improve forage in the long term. Although most of the LUPs do not provide specific direction for fire suppression in GRSG habitat, protection of GRSG habitat during suppression has become a priority in planning and operational discussions due to large fires in GRSG habitat in 2007 and 2012. Therefore, the risk of forage loss in these areas may be lower than in non-GRSG habitats.

A minimum rest period from livestock grazing of two growing seasons would typically be required after any major vegetative disturbance, including wildfire, for BLM- and Forest Service-administered lands. Specific timing and the type of rest would be determined at the site-specific environmental assessment phase for all lands in the planning area. As a result, livestock grazing would typically be excluded from areas following a fire to some extent. Impacts on and costs and time for permittees and lessees would depend on the location of the fire in relation to grazing allotments, as well as the size and severity of the fire. Overall, impacts of required rest are likely to be minimal, compared to the action alternatives.

Impacts from Energy and Mineral Development

In general, Alternative A is the least restrictive on energy and mineral development of all alternatives. As a result, the indirect impacts of development on livestock grazing, including spread of noxious weeds and disturbance of livestock, are the greatest under this alternative.

Impacts from Locatable Minerals Management

Under Alternative A, 621,300 acres of the decision area would be withdrawn from mineral entry. Impacts on range management would not occur in this area.

Impacts from Salable Minerals Management

Under Alternative A, 707,200 acres of the decision area would be closed to mineral materials disposal. Impacts on range management would not occur in this area.

Impacts from Unleased Fluid Minerals Management

Under Alternative A, 1,319,300 acres in the planning area would be closed to leasing. Alternative A would have the highest number of BLM- and Forest Service-administered lands open to fluid mineral leasing with standard terms and conditions; therefore, conflicts between grazing and mineral development would be more likely to occur in this area.

Impacts from Leased Fluid Minerals Management

The Idaho BLM has four federal oil and gas leases. No drilling or exploration has occurred on any of the leases, nor has any activity been proposed; therefore, minimal impacts on livestock grazing are anticipated.

Impacts from Recreation and Visitor Services Management

Under this alternative, there would be no new restrictions to SRPs in the decision area; therefore, livestock could be disturbed by recreation in the planning area. Some limited



potential for disturbance from general recreation is possible, as described under **Section 4.5.2.**

Under Alternative A, as under all alternatives, motorized travel would be limited to designated routes, and site-specific travel management planning on BLM-administered lands would be developed, limiting disturbance to livestock. In addition, OHV use on National Forest Lands within the planning area is limited to roads, trails, and areas that have been designated through a transportation planning process; therefore, impacts on disturbance of livestock or access to allotments from travel management are the same across all alternatives for Forest Service-administered lands.

Impacts from Livestock Grazing Management

Under Alternative A, livestock grazing would be allowed on approximately 11,133,900 acres in the planning area. This includes approximately 9,218,000 acres and 1,108,000 AUMs on BLM-administered lands within GRSG Habitat and 1,915,900 acres of Forest Service-administered lands in GRSG habitat (see **Table 4-54**, Overview Comparison of Impacts on Range Management by Alternative within GRSG Habitat). AUM calculations are not available for Forest Service-administered lands. While livestock grazing is currently permitted throughout the planning area, the population areas with the most acres open to grazing are Mountain Valleys, North Side Snake, and Southwest Idaho. Each has close to 2 million acres of BLM-administered lands open to grazing within occupied GRSG habitat in the planning area.

Note that outside of GRSG habitat in the planning area there are an additional approximately 701,000 acres and 54,900 permitted AUMs on BLM-administered lands and 7,700,600 acres on Forest Service-administered lands. Livestock management decisions on these lands are not made in this document.

All leases and permits under Alternative A would continue to be required to meet or make progress toward meeting standards defined in the Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management and the Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands Administered by the Bureau of Land Management for Montana and the Dakotas for BLM-administered lands. Achievement or significant progress toward achievement would continue to be evaluated. Grazing permits, including grazing systems, permitted AUMs, and allotment boundaries, would be modified as necessary at this point to conform to Standards and Guidelines for Livestock Grazing Management. This would be the case if grazing were determined to be the causal factor for a standard not being achieved, as required by regulation on BLM-administered lands. As a result, any changes to grazing management would occur on a rolling basis following the determination.

On Forest Service-administered lands, allotments with grazing permits would be required to meet or be moving toward desired conditions, as defined in the LRMP, or as described in an agency NEPA decision for the allotment. Permits would be reviewed and amended as needed and rangeland conditions would be assessed during site-specific NEPA analysis based on the Forest Allotment NEPA schedule.

Table 4-54
Overview Comparison of Impacts on Range Management by Alternative within GRSG Habitat

	BLM-Administered lands by GRSG Population Area												
	Alt. A	Alt. B		Alt. C	Alternative D			Alternative E			Alternative F		
	All GRSG Habitat	PGMA	PPMA	PPMA	PGMA	PMMA	PPMA	CHZ	GHZ	IHZ	PGMA	PPMA	PRMA
BLM													
Acres open to grazing	9,218,000	1,993,300	7,266,700	0	1,992,900	1,128,600	6,135,300	4,342,900	2,560,100	2,369,200	1,993,400	7,266,700	62,300
Permitted AUMs	1,108,000	221,600	693,100	0	221,500	117,500	575,300	414,600	287,700	213,700	221,600	693,100	6,240
Forest Service													
Open to grazing ¹	1,915,900	824,800	924,900	0	991,500	254,900	667,000	446,300	880,500	356,400	825,800	925,200	140

BLM 2013a; Forest Service 2013a

¹ AUMs are not available for Forest Service-administered lands

Lands would be maintained and restored to maintain healthy native plant and animal species. Changes to rangeland management would be directed first to allotments not meeting one or more of the land health standards or desired conditions. On approximately 61 of the 2,220 allotments assessed on BLM-administered lands, on 660,900 acres, standards are not being achieved due to livestock management. Management actions have not yet been taken to make progress toward meeting standards. See **Section 3.8**, Livestock Grazing. Similarly, the focus in riparian areas and wetlands would be to improve functioning-at-risk and nonfunctioning riparian areas and wetlands toward PFC. As described under **Section 4.5.2**, managing riparian habitat can directly impact livestock grazing by excluding livestock at specific sites, increasing herding, adding range improvements (such as cross fences and water gaps), and adjusting season and duration of use and livestock numbers. Such changes in grazing management options may increase time or costs for lessees and permittees.

Measures for GRSG and other sensitive species habitat under Alternative A are limited to requirements for “habitat suitable to maintain suitable viable populations” (under the Idaho standard), or “habitat as necessary to maintain a viable and diverse population of native plant and animal species, including special status species,” (under the Montana standards). This alternative would not direct the BLM or Forest Service to manage certain areas more intensively for GRSG habitat objectives; therefore, impacts on grazing in GRSG habitat are similar to those throughout the planning area.

Range improvements, including fences, vegetation treatments, and water developments, would be allowed in the decision area when needed to support grazing or to improve livestock distribution, allowing for management options for lessees and permittees. Fences would be constructed to protect and benefit livestock and wildlife, but no specific provisions are included for GRSG, so additional costs could be limited.

Under drought conditions under Alternative A, grazing use could be adjusted, as necessary, in accordance with BLM IM 2013-094. There would be potential impacts on authorized AUMs and management options, with increased time and costs for permittees and lessees if any changes were implemented on BLM-administered lands.

Impacts from Special Designations Management

Under Alternative A, 59 existing ACECs containing 325,000 acres of occupied GRSG habitat would be maintained. Impacts on range management would be as described under **Section 4.5.2**.

4.6.5 Alternative B

Occupied GRSG habitat would be classified into PPMA and PGMA under this alternative, and impacts would primarily occur on range management in PPMA due to restrictions on resource uses.

Impacts from Lands and Realty Management

Under Alternative B, no new ROW authorizations would be permitted in PPMA unless the development would occur within the existing developed footprint. As a result, indirect

impacts on livestock grazing from disturbance would be limited in this area and would decrease, compared to Alternative A.

Impacts from Habitat Restoration and Vegetation Management, Including Invasive Species Management

Under Alternative B, restoration projects in PPMA would be designed to benefit GRSG and based on the likelihood of success, with reestablishment of sagebrush cover as the highest priority. Projects to remove nonnative species and improve habitat would likely be in line with current grazing management practices and could improve livestock forage in the long term. Impacts could occur on range management when objectives for range management did not match those for GRSG habitat. Post-restoration management requirements could also result in changes to grazing systems or range management, with a resulting potential for an increase in costs and time for permittees and lessees.

Actions for invasive species management are similar to that described under Alternative A, with a greater focus on restoration and potential for impacts on grazing management in PPMA.

Impacts from Wildland Fire Management

Under Alternative B, fire suppression would be prioritized when PPMA is threatened. As a result, there is potential for less disturbance to grazing due to fewer wildfires. Fires burning outside of PPMA or PGMA may increase in size when they are prioritized for suppression after fires burning in PPMA and PGMA. This could slightly increase the disturbance to grazing outside of GRSG habitat.

Post-fire management actions to restore habitat could result in impacts on range management. Under this alternative, management activities may be adjusted to support successful restoration, which could temporarily or permanently reduce grazing in areas reseeded post-fire. The level of impacts would depend on size, location, and intensity of fire and on the related level of restoration needed.

Fuels management projects to reduce fine fuels include the use of targeted livestock grazing. This could result in site-specific temporary increases in available forage in PPMA, but impacts are likely to be minimal overall.

Impacts from Energy and Mineral Development

Under Alternative B, additional restrictions would be put on mineral development, as compared to Alternative A. Lands in PPMA would be recommended for withdrawal from mineral entry for locatable minerals, closed to mineral materials removal, and closed to new leasing for fluid minerals. For currently leased parcels, NSO stipulations would be applied in PPMA and around leks. As a result, disturbance of range management from mineral development would be minimized in PPMA.

Impacts from Recreation and Visitor Services Management

In PPMA, motorized travel would be limited to existing roads and trails on BLM- and Forest Service-administered lands. Travel plans (to be completed) would analyze PPMA for the



need for road closures, and limitations would be implemented during development of new roads. Some reduction in routes, limitations on new routes, and upgrades to existing routes would be added, compared to Alternative A. This could indirectly reduce livestock disturbance in PPMA. If restrictions on cross-county travel were to apply to permittees and lessees, access to allotments and the ability to effectively manage livestock may be impacted.

SRPs in PPMA would be limited when they were found to have negative impacts on GRSG; therefore, overall SRPs may be reduced with potential benefits to livestock grazing due to decreased disturbance.

Impacts from Livestock Grazing Management

Under Alternative B, no management actions would result in direct changes to acres open to grazing and permitted AUMs (**Table 4-54**, Overview Comparison of Impacts on Range Management by Alternative within GRSG Habitat). In the long term, livestock grazing in PPMA may be reduced under Alternative B, compared to Alternative A, in order to conform to GRSG habitat objectives. However, the impacts would be site-specific and likely occur gradually.

This alternative provides GRSG habitat objectives, which will be incorporated into permit and lease renewals; therefore, impacts would occur at a site-specific level during the renewal process. Completion of land health assessments would be prioritized within PPMA on BLM-administered allotments. As a result, impacts on range management would be most likely to occur in these areas. Retirement of allotments would be an option in PPMA, resulting in potential reductions in AUMs in the planning area. Compensation for authorized range improvements would be provided, as appropriate.

Vegetation treatments that benefit livestock forage could only be completed if these treatments would also conserve, enhance, or improve GRSG habitat; therefore, the management options in PPMA could be reduced and the ability to fully use permitted AUMs could be impacted. On BLM-administered lands, land health assessments using ecological site descriptions (where available) would be required to determine if standards of rangeland health and GRSG habitat objectives were being met.

Under drought conditions, as under Alternative A, grazing management changes may be implemented; however, under Alternative B the focus would be on adjusting management in PPMA; therefore, impacts would be more likely to occur in this area.

Under Alternative B, riparian areas would be managed for PFC or similar standards at a minimum within PPMA. There could be limitations on grazing within these areas, increased use of fencing and herding, seasonal limitations on grazing, creation of water developments, or other measures to manage distribution of livestock so that pressure on these systems is limited. This could increase costs or time for permittees and lessees.

In the long term, livestock grazing in PPMA is likely to be reduced under Alternative B in order to conform to GRSG habitat objectives and other resource concerns. The timing and degree of reduction would depend on permit renewal timing and site-specific conditions.

Structural range improvements, such as fences and exclosures, in PPMA under Alternative B would be allowed but would have to be designed to conserve or enhance GRSG habitat. In addition, some fences would require marking, alternative siting, or other design features to lessen risk for GRSG impacts, so the cost of building or maintaining these structures may be increased, compared to Alternative A.

Similarly, new water developments from diverting spring or seep sources would be permitted only when GRSG habitat would also benefit and so would be limited. Permittees and lessees may not be able to fully use permitted AUMs if water were limited on a given allotment. Overall, water improvements and fences are likely to be removed or modified to some extent under this alternative, resulting in decreased grazing or shifts in grazing use patterns in the long term.

Impacts from Special Designations Management

No new ACECs or ZAs would be designated under Alternative B, so impacts would be as described under Alternative A.

4.6.6 Alternative C

Alternative C would be the most restrictive on grazing management; no grazing would be authorized in occupied GRSG habitat following a two-year notice to cancel existing permits and leases, or portions thereof. Impacts from all other resources and resource uses on livestock grazing under Alternative C would be limited due to the limited permitted grazing outside of occupied habitat.

Impacts from Lands and Realty Management

Impacts are as described under Alternative B but would apply to all occupied habitat. Impacts on livestock grazing are minimal due to lack of grazing in all occupied GRSG habitat.

Impacts from Habitat Restoration and Vegetation Management, Including Invasive Species Management

Management actions and impacts are similar to that described in Alternative B, with some additional restrictions on removing sagebrush cover to improve forage production. Impacts, however, are limited due to the lack of authorized grazing in occupied habitat.

Impacts from Wildland Fire Management

Impacts from wildland fire management are minimal under Alternative C due to the lack of permitted grazing in occupied habitat.

Impacts from Energy and Mineral Development

Management would be similar to that described under Alternative B. Impacts from all energy and mineral development would be minimal due to lack of grazing in occupied habitat.

Impacts from Recreation and Visitor Services Management

Management would be the same as Alternative B but would apply to all occupied habitat. Impacts are minimal due to lack of grazing in occupied habitat.



Impacts from Livestock Grazing Management

Alternative C would remove livestock grazing from all allotments in occupied habitat, a 100 percent reduction from Alternative A (see **Table 4-54**, Overview Comparison of Impacts on Range Management by Alternative within GRSG Habitat). Grazing would be permitted outside of GRSG habitat on a total of approximately 263,371 acres, with 23,179 permitted AUMs on BLM-administered lands. Acres and AUMs are not available for Forest Service-administered lands.

Removing grazing from all occupied habitat would result in economic impacts on permittees and lessees. As discussed under **Section 4.5.2**, permittees and lessees would be faced with reducing AUMs for their operations or locating replacement forage. This could have higher costs or limited availability with related impacts on individual leases and permits as well as the local community. Closures to grazing would also disrupt the viability of current seasonal rotations or other management strategies that use combinations of federal, state, and private lands and potentially reduce the value of private lands used for grazing. If ranches are not maintained or profitable, they could be sold and may be developed (Wilkins et al. 2003).

Existing structures under Alternative C could be required to be modified or removed if they are determined to have a high risk of GRSG strike. In addition, management actions would allow no new water developments, and existing water developments could be removed. It is unclear if there would be a concerted effort to remove any or all livestock management infrastructure under this alternative. However, permittees and lessees who have investments on federal lands in occupied habitat that would be impacted could be compensated. Compensation for BLM permittees and lessees with authorized range improvements would be provided as appropriate, based on requirements specified in 43 CFR 4120.3-6(c). Under certain limited circumstances, Forest Service permittees would be compensated in accordance with 36 CFR 222.6(a). BLM and Forest Service investments in range infrastructure could also be impacted under this alternative, as structures no longer are maintained and go into disrepair. Furthermore, fencing may be required to prevent livestock from trespassing onto lands where grazing is excluded.

Removing range improvements and water developments on occupied habitat would also further restrict management options. Permittees and lessees who rotate pastures between private and federal lands may need to construct additional water developments and realign fences to keep livestock on private pastures, thereby increasing time and costs. Fencing density could increase in areas where federal, state, and private lands are interspersed and are grazed in common.

As a result of removing grazing from occupied habitat, there is also the potential for increased conflicts between grazing and other resources and resource uses on lands of other surface ownership, should livestock grazing increase in this area.

Impacts from Special Designations Management

Under Alternative C, 39 new ACECs encompassing approximately 3.6 million acres of occupied GRSG habitat would be designated in the planning area, a tenfold increase over

Alternative A. Impacts would, however, be limited since grazing would be prohibited from occupied habitat on BLM- and Forest Service-administered lands.

4.6.7 Alternative D

Occupied habitat is categorized into three priority, medial, and general, with associated management. Impacts for livestock grazing would be focused in PPMA and PMMA.

Impacts from Lands and Realty Management

Under Alternative D, new ROW and land use authorizations would be avoided whenever possible, with a goal of no net loss in GRSG habitat. ROW avoidance areas in PPMA, PMMA, and PGMA, as well as the exclusion of larger facilities in PPMA, would somewhat limit the indirect impacts of development on grazing in the avoidance and exclusion areas. Impacts could be disproportionately concentrated in nonhabitat allotments.

Similarly, management actions prohibiting solar and wind development in PPMA and imposing restrictions on development in PMMA and avoidance areas in PGMA would limit any impacts of disturbance from development of these resources. However, this may shift impacts on nonhabitat allotments.

Impacts from Habitat Restoration and Vegetation Management, Including Invasive Species Management

Under Alternative D, vegetation rehabilitation would emphasize projects to achieve the greatest improvement in GRSG abundance and distribution. This includes sites with greater likelihood of success, as discussed under Alternative B. Reconnecting and expanding native plant communities would be an objective across all GRSG habitat types; restoring seasonal habitats would be emphasized in both PPMA and PMMA.

As discussed in Alternative B, these management actions would likely be in line with current grazing management practices and could improve livestock forage in the long term. Impacts could occur on range management when objectives for range management do not match those for GRSG habitat. Post-restoration management requirements could also change grazing or other range management systems. This could increase costs and time for permittees and lessees. Most management actions and related impacts on grazing would be applied across all three habitat types, so they would be similar to those discussed in Alternative B but increased in intensity .

Cooperative planning would be used to develop and implement habitat restoration projects, so local permittees and lessees would have the opportunity to provide input into the implementation process. This would allow for results that could limit impacts on grazing management or improve habitat for both GRSG and livestock.

Impacts from Wildland Fire Management

Under Alternative D, post-fire and restoration management would be undertaken to ensure long-term persistence of seeded or pre-burn native plants. It may also require short- or long-term change to grazing management. Management actions for post-fire restoration may



reduce livestock grazing, with related impacts on permittees' and lessees' ability to fully use permitted AUMs. The degree of impacts would be determined by the location, size, and intensity of fires in GRSG habitat but would be increased over those in Alternative B. This is because all GRSG habitat types (priority, medial, and general) would be included.

Using grazing to manage fine fuels would also be considered in PPMA, PMMA, and PGMA, following certain conditions. Grazing management would be implemented strategically on the landscape. It would directly involve the minimum footprint and grazing intensity required to meet fuels management objectives and to conform to grazing standards and guidelines. As a result, additional site-specific opportunities for targeted grazing may be available, but these are likely to be limited and short term; thus, the overall impact in the planning area would be minimal.

Impacts from Energy and Mineral Development

Under Alternative D, some degree of mineral development would be allowed, with measures to avoid or mitigate impacts on GRSG. Specifically, new fluid minerals and undeveloped nonenergy mineral leases would be allowed in all GRSG habitat types, with BMPs applied. Similarly, mineral materials would be allowed to be leased in all habitat types, with stipulations. As a result of the flexibility in management for PPMA, unlike that in Alternative B, there is some potential for mineral development in PPMA and related impacts on disturbance of livestock; however, the impacts would likely be minimal and lower than that under Alternative A. Within PMMA and PGMA, the degree of disturbance from or conflicts with grazing from energy and mineral development would also be lower than that under Alternative A.

Impacts from Recreation and Visitor Services Management

Under Alternative D, motorized travel would be limited to existing roads, primitive roads, and trails, at a minimum. All open play areas designated for OHV use are outside GRSG habitat; these would remain open, with the potential to disturb livestock or disrupt livestock movement in these areas. This would be due to gates left closed or open inappropriately. Seasonal restrictions for authorized activities could impact the ability of permittees and lessees to access and manage allotments.

Impacts from Livestock Grazing Management

Grazing would be allowed on all lands identified as available, as under Alternative A (see **Table 4-54**, Overview Comparison of Impacts on Range Management by Alternative within GRSG Habitat).

Grazing management action and impacts are similar to those described in Alternative B. There would be prioritized implementation of grazing systems or permit modifications to meet habitat objectives in areas that are not meeting these objectives. This would result in a moderate decline in permitted grazing over time as permits are modified to incorporate GRSG objectives at renewal. Under Alternative D, however, allotments containing PPMA would be prioritized for permit renewal, followed by PMMA and finally PGMA; impacts on range management would occur in this sequence. In addition, all allotments with federally

threatened and endangered species may also be prioritized for permit renewal ahead of GRSG habitat; therefore, impacts on range management could also occur in these areas.

Under Alternative D, additional measures would be applied to limit impacts of trailing livestock on leks and structural range improvements on GRSG. This would result in some additional potential for increased time and costs for management.

Retiring grazing permits, as described under Alternative B, would be considered where grazing privileges are relinquished or the allotment is vacant in all GRSG habitat types. As a result, total areas open to grazing may be reduced in the long term.

During droughts, under Alternative D, grazing management would be adjusted, as under Alternatives A and B, with the emphasis on providing sufficient food and cover for GRSG. Impacts would depend on site-specific resource conditions.

Impacts from Special Designations Management

No new ACECs or ZAs would be designated under Alternative D, so impacts are as described under Alternative A.

4.6.8 Alternative E

Under Alternative E, GRSG habitat would be separated into CHZ, IHZ, and GHZ, with the priority on allotment renewal in CHZ and IHZ where populations are declining. Management changes, if required, would be tailored to specifically address habitat objectives that need improvement, and the impacts on other resources or resource uses, such as wildland fire management, would be examined. As a result, impacts on livestock management may be limited, compared to other action alternatives, due to the increased flexibility to address site-specific needs.

Impacts from Lands and Realty Management

Under Alternative E, ROW avoidance areas in CHZ and IHZ, as well as the exclusion of new infrastructure in CHZ, would somewhat limit the indirect impacts of development on grazing.

Impacts from Habitat Restoration and Vegetation Management, Including Invasive Species Management

Impacts from habitat restoration are as described under Alternative A. Similarly, management actions of invasive species would likely be similar to Alternative A, with a focus on actions in CHZ and IHZ. Short-term impacts on grazing are minimal, with a change for long-term improvement of forage.

Impacts from Wildland Fire Management

Under Alternative E, management actions for wildfire include an emphasis on fire suppression and reduction in fire risk in CHZ, IHZ, and GHZ, with potential for reduction in fire risk and related disturbance in these areas. As under Alternatives B and D, actions include targeted livestock grazing to reduce fine fuels and invasive species and to maintain fuel breaks, particularly in areas with high fuel loads with high risk of wildfire threatening the



CHZ and IHZ. This action could result in some site-specific temporary increases in available forage, but location and levels would be unpredictable; thus, impacts are minimal overall.

Impacts from Energy and Mineral Development

Impacts from mineral and energy development are generally the same as those described under Alternative A. Fluid mineral development would have some additional restrictions applied to limit disturbance; therefore, the likelihood of development and associated disturbance would be reduced in areas with potential for these resources.

Impacts from Recreation and Visitor Services Management

Impacts are similar to those described under Alternative B. On BLM- and Forest Service-administered lands, restrictions on motorized use on existing routes before travel planning and seasonal restrictions on activities that could disturb nesting GRSG could impact the ability of permittees and lessees to access and manage allotments.

Impacts from Livestock Grazing Management

Under Alternative E, management actions and impacts would be based on GRSG population trends and focused on CHZ and IHZ. Allotments would be prioritized for permit renewal where populations of GRSG are. Changes to grazing management and associated impacts are most likely to occur in these areas.

Existing grazing management would be maintained unless the current grazing system does not meet GRSG habitat objectives and there is compelling information that changing the system would enhance habitat. Specifically, management actions in this alternative state that where population and habitat triggers are being maintained within a Conservation Area, this shows that the current grazing system is adequate to maintain viable GRSG populations and therefore absent compelling information, no further changes to BLM grazing systems would be required pursuant to Standard 8 (Threatened And Endangered Plants And Animals) of the Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management, with respect to GRSG. Modifications to grazing management would continue to be implemented, however, where Standards 2 (Riparian Areas and Wetlands) and 4 (Native Plant Communities) are not being met, or where Standard 8 is not being met for other species.

Adjustments would be applied at a site-specific level and specifically tailored to achieve objectives. As a result, changes to management and associated impacts would be limited. In addition, altering grazing systems within allotments may be possible under this alternative. This includes enhanced grazing opportunities in some areas with introduced seedings or areas with lower value to GRSG, such as GHZ. This limits overall impacts.

Under Alternative E, some additional limitations would apply to structural range improvements, as compared to Alternative A. This could increase the time or costs for construction and maintenance of improvements or could impact the ability to distribute livestock. These restrictions are more flexible than those under other action alternatives. They include avoiding construction of new fences within 1.2 miles (2 km) of leks and

considering GRSG habitat needs and risks when designing and locating new water developments.

The location and level of adjustment needed to management cannot be determined and may change over time, lending some instability to the range management program. This is because of the unpredictable nature of areas that may be targeted for grazing management revision under this alternative (based on local GRSG population levels).

Impacts from Special Designations Management

No new ACECs or ZAs would be designated under Alternative E, so impacts are as described under Alternative A.

4.6.9 Alternative F

As in Alternative B, all occupied habitat would be categorized into PPMA and PGMA, with potentially other restoration areas, each with associated management. Although grazing would be permitted under this alternative, the level of authorized grazing would be reduced by removing 25 percent of average billed AUMs in occupied GRSG habitat, following a two-year notice to cancel existing permits and leases, or portions thereof. In addition, the ability to construct improvements and other management options would be limited, with impacts on permittees and lessees.

Impacts from Lands and Realty Management

The type of impacts are as described under Alternative A, although the level of impacts would be reduced due to the reduction in authorized grazing.

Impacts from Habitat Restoration and Vegetation Management, Including Invasive Species Management

Management actions under this alternative are similar to those described under Alternative B but include additional restrictions on removing sagebrush cover to improve forage. As such, management options may be further limited. However, there is the potential that less forage improvement would be necessary under Alternative F for livestock grazing purposes, due to the reduction in authorized grazing in the planning area.

For invasive species management, activities that spread invasives would be restricted. As described under the range management section for this alternative, restrictions on range improvements may apply, with potential impacts on permittees and lessees.

Impacts from Wildland Fire Management

As for all action alternatives, actions to suppress and control the spread of wildfire under Alternative F could decrease the risk of disturbance from wildfire in GRSG habitat. Fires outside of GRSG habitat would be at risk of decreased suppression efforts.

Under Alternative F, measures to protect GRSG habitat post-fire could impact range management. Livestock grazing would be excluded from burned areas until woody and herbaceous vegetation meet GRSG objectives, which could result in long-term (10 to 50 years or longer) exclusion from burned sites. It would generally take more than a decade to



reestablish adequate Wyoming sage cover in low precipitation areas. The level of impacts would depend on locations, size, and intensity of wildfire in GRSG habitat in relation to the location and level of authorized grazing. Requirements to include livestock exclosures to monitor fire restoration progress are anticipated to have negligible impacts, due to the limited size of exclosures.

Impacts from Energy and Mineral Development

Under Alternative F, no new mining claims would be allowed, and salable minerals sales would be prohibited in PPMA. Therefore, there would be limited potential from development-related disturbance of these resources.

Impacts from leased fluid minerals are the same as those described under Alternative A. New leasing in PPMA and PGMA would be limited, so there is some limited opportunity for disturbance from development of these resources.

Impacts from Recreation and Visitor Services Management

Impacts are similar to that described under Alternative B. In addition, seasonal camping closures within 4 miles (6.4 km) of active leks could impede implementation of required livestock movement and trailing activities.

Impacts from Livestock Grazing Management

Under Alternative F, management actions and impacts would occur in all occupied habitat. The reduction in authorized grazing in GRSG occupied habitat, while not as complete as under Alternative C, would include a 25 percent reduction below AUMs levels typically billed by permittees. While allotment-specific impacts would be determined at the implementation level, overall, livestock grazing levels would be reduced in the decision area. In some cases, this may involve loss of permitted grazing for individual allotments and, in other cases, may involve reduction of permitted grazing levels for allotments. These management actions would potentially require permittees to reduce grazing or locate alternative sources of forage, with potential for economic impacts on as discussed in Alternative C.

Where grazing is permitted, management would be similar to that described in Alternative B, with the addition of other protective measures for GRSG habitat (such as increased prohibitions on grazing after fire and restriction on all vegetation treatments). As a result, management options would be limited and time and costs for permittees would be increased as compared to Alternative A.

In addition, management actions would allow no new water developments or other structural range improvements. Prohibitions on new improvements could also limit the ability to effectively distribute livestock, resulting in indirect increases in time and costs for permittees. These actions are likely to further limit the abilities of permittees and lessees to fully use permitted AUMs and would increase time and cost for management.

Impacts from Special Designations Management

Under Alternative C, 17 or 18 new ACECs and 12 new ZAs encompassing up to 7.8 million acres of occupied GRSG habitat, would be designated in the planning area. This would be a 22-fold increase over Alternative A. Impacts would, however, be reduced in areas where grazing is reduced.

4.7 Travel Management

This section discusses impacts on travel and transportation management from proposed BLM and Forest Service management actions. Existing conditions concerning travel and transportation management are described in **Section 3.10**.

Travel and transportation management supports and helps achieve the objectives of other resource programs, particularly such resource uses as recreation, mineral development, and lands and realty. At the resource management planning level, impacts on travel and transportation management occur when management restricts travel access, such as by closing an area to motorized travel.

Since travel management decisions impact other resource areas—for example, closing or limiting travel to protect sensitive soil resources—impacts of travel management actions on other resources and uses are discussed in the respective resource sections of this chapter. Accordingly, while impacts on travel and transportation management from other program areas do occur and are considered as part of transportation management planning, this section does not address the impacts on travel and transportation management from other resources and resource uses.

4.7.1 Methods and Assumptions

Indicators

Indicators of impacts on travel and transportation management from BLM and Forest Service management to protect GRSG are changes in the following:

- The acreages designated as open, limited, or closed to motorized travel
- The types of transportation activities occurring on routes that could impact GRSG or habitat
- The number of acres where new road development would be allowed

Assumptions

In addition to the assumptions in **Section 4.1.1**, this analysis includes the following assumptions:

- The demand for general access to travel routes on BLM-administered and Forest Service-administered lands would continue to increase over the life of the LUPs.



- Administration of updated agency travel management policy, rules, and planning and design guidelines will change public land travel systems through design, making them more sustainable while decreasing potential impacts on resources.
- OHV use will continue to increase.
- The designation of individual routes is an implementation-level process and not considered as part of a planning-level process.
- The potential for resource and user conflict increases as OHV use increases and becomes more concentrated.
- Travel systems are dynamic and will be changed through subsequent implementation-level planning.
- Implementation of a travel management plan would include increased public education, signing, enforcement, and resource monitoring in regard to travel management.

4.7.2 Nature and Type of Effects

This section summarizes the nature and type of effects related to comprehensive travel and transportation management. (Section 4.6.3 describes impacts common to all alternatives.) Analysis under each alternative briefly describes the unique impacts for that alternative and refers back to this section for the nature of the impact.

Impacts on travel and transportation management are those that restrict or enhance travel, such as managing areas as closed or limited to motorized travel.

Table 4-55, OHV Area Designations by Alternative, summarizes motorized travel designation by alternative.

Table 4-55
OHV Area Designations by Alternative

		Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
BLM	Open	2,904,300	670,400	0	0	2,913,000	254,700
	Limited to existing routes	5,496,600	7,685,200	8,355,600	8,401,000	5,477,500	8,587,500
	Closed	905,700	900,500	900,500	905,700	902,400	914,100
	Undesignated	1,503,800	170,300	0	346,500	1,456,000	183,800
Forest Service	Limited to designated routes	62,400	1,860,600	1,861,900	2,039,400	1,865,900	1,860,700

Source: BLM 2013a; Forest Service 2013a

Wilderness areas are closed to motorized travel. New travel and transportation management actions in response to GRSG habitat protection strategies could result in travel being limited

to existing routes, where the designation currently allows cross-country travel. Management actions that prohibit cross-country travel would minimize the creation of new routes, enabling BLM travel management actions to focus on already established routes.

BLM and Forest Service management to preserve GRSG habitat could also restrict route improvements and limit on new route construction. Restrictions on construction would direct route users elsewhere in the transportation network, potentially impacting those areas from the added activity. Additionally, management actions that restrict future route construction limit the ability of the travel network to accommodate increased travel demands over time. Conflicts among route users could increase if the existing network becomes congested.

Comprehensive travel and transportation management decisions, resulting in the closure or removal of routes in GRSG habitats, would affect travel and transportation management throughout the entire planning area. Implementing management for all other resources and uses would have negligible or no impact on comprehensive travel and transportation management; therefore they are not discussed in detail.

4.7.3 Impacts on Travel Management Common to All Alternatives

The nature and type of impacts described below are common to all alternatives, but the context and intensity may vary by alternative.

Under all alternatives the BLM would defer travel management route designations to a separate process following the current LUPA process. As such, for each alternative, the BLM would maintain current management of areas closed to cross-country motorized travel and would manage varying acreages as limited to existing routes. The Forest Service has already undertaken a route designation process. As a result, motorized travel is limited to designated routes on Forest Service-administered lands under all alternatives. Areas of disturbance associated with these designated routes vary slightly by alternative. **Table 4-55, OHV Area Designations by Alternative**, summarizes the total areas open, limited, and closed to cross-country motorized travel by alternative.

4.7.4 Alternatives Analysis

In accordance with 43 CFR 8342.1, current BLM management limits motorized travel to existing roads and trails within portions of the planning area, while allowing cross-country travel in other areas. Under Alternative A, the BLM and Forest Service would maintain current levels of travel management, as identified in the existing planning documents. For example, BLM-administered lands currently designated as open to cross-country OHV use (2,097,100 acres) would continue to be managed as such. Motorized travel on Forest Service-administered lands would continue to be limited to designated routes. There would be no new restrictions on GRSG habitat management and no change in impacts on travel management.

Under Alternative B, the BLM would limit motorized travel to existing roads and trails in PPMA. Motorized travel on Forest Service-administered lands would continue to be limited



to designated routes with a total disturbance area of 1,859,800 acres. The area designation change on BLM-administered lands from open to limited would reduce cross-country access in those portions of PPMA that were previously managed as open. Applications for upgrading or realigning routes would be required to meet certain design, location, and mitigation criteria intended to protect GRSG habitat. These requirements may preclude the construction of some new routes but would be unlikely to reduce access across the decision area.

Alternative B would also require increased signs and education alerting OHV users of limitations on cross-country travel. It would add processing requirements for transportation-related projects in GRSG habitat. Signs and education would likely improve travel management by reducing user and resource conflicts; added processing requirements could increase the time needed to approve new projects and result in site-specific increases in congestion if portions of the current route system become overcrowded. Alternative B's restrictions on OHV travel would make active livestock management more difficult because of the difficulty of access to the allotments.

Alternative C would result in the greatest reduction in access, when compared to Alternative A. For example, under Alternative C, motorized cross-country travel would be prohibited in all GRSG habitats. Additionally, in PPMA, new road construction within 4 miles (6.4 km) of active leks would be prohibited. Upgrading existing routes where it would damage occupied GRSG habitat would also be precluded. Together, these actions would result in site-specific losses of opportunity for motorized travel, future route construction, and improved access. Similar to Alternative B, Alternative C's restrictions on OHV travel would make active livestock management more difficult because of the difficulty of access to the allotments.

Under Alternative D, motorized travel in PPMA would be limited to existing routes on BLM-administered lands and designated routes on Forest Service-administered lands. Undesignated routes would be designated as part of a future travel management planning process. There would be no areas within GRSG habitat managed as open to cross-country OHV travel under Alternative D, which would reduce cross-country access in areas previously managed as open. In those areas managed as limited to existing routes, impacts on travel and transportation management under Alternative D are the same as Alternative B and are consistent with **Section 4.6.2**. Similar to Alternative B, Alternative D's restrictions on OHV travel would make active livestock management more difficult because of the difficulty of access to the allotments.

Impacts under Alternative E are the same as under Alternative A, while impacts under Alternative F are the same as under Alternative B.

4.8 Lands and Realty

BLM- and Forest Service-administered lands are used for a variety of purposes. Major focus areas for the lands and realty program include land use authorizations, land tenure adjustments, and land withdrawals. The Forest Service completes landownership adjustments (purchase, exchange, donation, and ROW acquisition), while the BLM conducts land tenure adjustments (exchanges, disposals, and acquisitions).

This section discusses impacts on lands and realty from proposed management actions of other resources and resource uses. Existing conditions concerning lands and realty are described in **Section 3.11**.

4.8.1 Methods and Assumptions

Indicators

Indicators of impacts on lands and realty are as follows:

- Acres of surface ownership in the planning area
- Acres of ROW restrictions (i.e., avoidance or exclusion areas)
- Number and types of surface-disturbing ROWs and leases, including communication sites
- Number and type of land tenure and landownership adjustments (i.e., lands identified as suitable for disposal, withdrawal, acquisition, exchange, purchase, donation, or ROW acquisition)

Assumptions

This analysis includes the following assumptions:

- Authorized ROWs and communication sites would be managed to protect valid existing rights, as long as those ROWs comply with the terms and conditions of their ROW grant.
- On renewal, assignment, or amendment of existing ROWs, permits, and leases, additional stipulations could be included in the land use authorization.
- Activities on dispersed private parcels within the planning area would continue to require new or upgraded services for small distribution facilities, including communication sites, roads, and utilities.
- Power lines and other vertical structures in areas naturally devoid of perching opportunities provide a perch for raptors and increase the potential for GRSG to abandon leks (Ellis 1984). Mitigation by burying lines or including design features that do not encourage perching on lines would reduce perching opportunities and subsequent impacts on GRSG (Connelly et al. 2000).
- The demand for both energy- and nonenergy-type ROWs (including communication sites) is anticipated to remain steady or gradually increase over time.
- Little to no solar energy ROWs are anticipated due to low solar energy potential.
- Geothermal energy development may occur during the life of the LUP but would be localized, and the number of ROW authorizations is anticipated to be less than those for wind.



- Maintaining and upgrading utilities, communication sites, and other ROWs is preferred before the construction of new facilities in the decision area, but only if the upgrading can be accommodated within or next to the existing ROW.
- Demand for small distribution facilities to extend and upgrade services, such as communication sites and utilities, is anticipated to increase as rural development occurs on dispersed private parcels within the planning area.
- The number of ROW applications for new communication and computer technology, such as fiber optic cable, is anticipated to continue to increase.
- Demand for both regional and interstate transmission lines is anticipated to increase as population and urban areas grow.
- Collocating new infrastructure in existing ROWs is preferred over creating new ROWs. The BLM and Forest Service recognize that collocation does not eliminate the likelihood for new temporary or permanent surface disturbance.
- The BLM and Forest Service would continue to manage all previously withdrawn lands as withdrawn from entry, appropriation, or disposal under the public land laws. Withdrawals would be reviewed as needed and recommended for extensions, modifications, revocations, or terminations. All existing withdrawals initiated by other agencies, such as the Bureau of Reclamation or the Department of Energy, would be continued unless the initiating agency, BLM, or the Forest Service requests that the withdrawal be extended, modified, revoked, or terminated.
- Any lands that become unencumbered by withdrawals or classifications will be managed according to the decisions made in this LUPA. If the LUPA has not identified management prescriptions for these lands, they will be managed the same as adjacent or comparable public lands within the decision area. If the unencumbered lands fall within two or more management scenarios where future planning criteria may not be clear, a plan amendment may be required.
- The existing designated ROW corridors within the decision area include the Western Utility Group updates to the Western Regional Corridor Study, Section 368 Energy Policy Act of 2005, and West-wide Energy Corridor Programmatic EIS, which are adopted and carried out under BLM IM-2013-118 (dated April 12, 2013). Designated transportation and utility corridors include linear ROWs, such as electric transmission facilities, pipelines, communication lines, and transportation systems.

4.8.2 Nature and Type of Effects

Resources and resource uses affect the lands and realty program by prescribing ROW exclusion and avoidance areas and stipulations in order to protect resources. Forest Service forest plan prescriptions are similar to BLM exclusion and avoidance areas. Prescriptions can restrict or prohibit certain uses in a planning area. The Forest Service grants special use authorizations (granting ROWs, permits, easements, and leases), while the BLM grants

ROWs on their respective agency lands. A ROW exclusion area is one that is not available for new ROW location under any conditions. A ROW avoidance area may be available for ROW location but may require special stipulations.

ROW applications could be submitted in ROW avoidance areas; however, a project proposed in these areas may be subject to additional requirements, such as resource surveys and reports, construction and reclamation engineering, long-term monitoring, special design features, special siting requirements, timing limitations, regional mitigation, and rerouting. Such requirements could restrict project location or they could delay the availability of energy supply (by delaying or restricting construction of pipelines, transmission lines, or renewable energy projects), limit future access, delay or increase the cost of energy supplies, or delay or restrict communications service availability. As a result of special surveys and reports, alternative routes may need to be identified and selected to protect sensitive resources, such as GRSG habitat.

Collocating transmission and mineral development infrastructure in existing ROWs and existing disturbed areas reduces land use conflicts and additional land disturbance. Collocation policies also clarify the preferred locations for utilities and simplify processing on BLM- and Forest Service-administered lands. However, collocating can limit options for mineral development and selection of more preferable locations for ROWs.

Travel management actions can involve closing areas or specific routes to motorized or mechanized travel, thereby creating areas that are impractical for some types of land uses, such as transmission lines or communication sites.

Land tenure and landownership adjustments are intended to maintain or improve the efficiency of BLM and Forest Service management, including management of GRSG habitat. Land disposal or sale can result in a more contiguous decision area, thus increasing the efficiency of BLM and Forest Service management. However, while consolidation may be beneficial for certain resources and uses, it may not necessarily reduce effects on GRSG habitat.

Implementing management for the following resources would have negligible or no impact on lands and realty management; therefore they are not discussed in detail: range management, fluid minerals, solid minerals, mineral split estate, fire and fuels management, habitat restoration, and vegetation management.

4.8.3 Impacts on Lands and Realty Common to All Alternatives

The nature and type of impacts described below are common to all alternatives, but the context and intensity may vary by alternative.

Impacts from Recreation and Visitor Services

BLM and Forest Service management goals and objectives are to preserve a desired setting and recreation experience for users within SRMAs and developed recreation sites. Land uses in the SRMAs and developed recreation sites should not conflict with recreation uses. Under



all alternatives, the BLM and Forest Service would continue to evaluate land use authorizations on a case-by-case basis in the special recreation areas and near recreation sites so as to avoid conflicting uses.

Impacts from Special Designations Management

Under all alternatives, the BLM and Forest Service would continue to manage existing special designation areas according to the existing LUP designations. Limiting ROW development in special designation areas impacts the ability of the BLM and Forest Service to accommodate ROW authorization demands within the planning area. This is particularly the case in locations where special designation areas separate energy sources (e.g., wind or geothermal) from likely demand centers. Routing transmission lines around exclusion areas could result in longer ROWs with greater surface disturbance and extended processing times.

4.8.4 Alternative A

Sage-Grouse Management

GRSG management actions have been incorporated in the Dillon Field Office and for the Beaverhead/Deerlodge and Caribou National Forests. Within these areas, impacts on the lands and realty program are as follows:

- Additional siting criteria for ROWs proposed next to leks or within breeding or nesting habitat
- Required design features for certain types of infrastructure
- Extended processing times to review ROW applications for compliance with GRSG habitat management objectives

In the portions of the planning where land use plans do not contain GRSG management actions, there would be no impacts on lands and realty under Alternative A.

Impacts from Travel and Transportation Management

Under Alternative A, existing transportation routes would continue to provide motorized access to ROW infrastructure and communication sites for construction and maintenance. Refer to **Section 4.6** for further analysis.

Impacts from Lands and Realty

Land Use Authorizations

Under Alternative A, 1,903,400 acres on both BLM- and Forest Service-administered lands would continue to be managed as ROW avoidance areas, and 1,010,900 acres would continue to be managed as ROW exclusion. Within exclusion areas, new ROW development would be prohibited, which would prevent the lands and realty program from approving new applications within these areas. All other lands within the decision area would continue to be open for ROW development. Alternative A would not prevent the BLM or Forest Service from accommodating future demand for ROW development within the planning area.

BLM- and Forest Service-administered lands would continue to be available for multiple-use and single-use communication sites and road access ROW authorizations on a case-by-case basis, in accordance with Title V of FLPMA, 43 CFR Part 2800 regulations, and Section 704(c) of the Telecommunications Act of 1996 (47 USC 332). All ROW applications would be reviewed using the criteria of collocating new ROWs within or next to existing ROWs wherever practical to avoid the proliferation of separate ROWs.

Wind and Solar ROWs

Wind and solar energy projects would be permitted through the ROW permitting process. For wind and solar energy development under Alternative A, the BLM would manage 800,000 acres as ROW exclusion and 806,400 acres as ROW avoidance. The Forest Service would continue to manage 210,900 acres as closed to new wind and solar use authorizations, while new wind and solar development would be avoided on 1,097,000 acres on Forest Service-administered lands.

ROW exclusion and avoidance designations decrease the amount of BLM- and Forest Service-administered land available for new development. Under Alternative A, the BLM and Forest Service management would provide sufficient opportunities to accommodate future wind and solar energy development within the planning area. Therefore, there would be little to no impacts on wind or solar energy development under Alternative A. (Refer to **Section 4.8.2** for impact analysis regarding geothermal resources)

Withdrawals

There would continue to be 4,026,900 acres of land withdrawals in the planning area, including 1,278,700 acres in GRSG habitats.

Impacts from Special Designations Management

Under Alternative A, nine ACECs would continue to be managed primarily as ROW exclusion. This would affect ROW permit application processing times, available development locations, and design standards for proposed ROWs on approximately 426,700 acres within the planning area. Refer to **Section 4.12**, Special Designations, for further analysis.

4.8.5 Alternative B

Sage-Grouse Management

Management actions under Alternative B to protect GRSG habitat would impact lands and realty by closing areas to ROW authorizations, additional criteria for land exchanges, and limitations on new mineral development and road construction. Primary impacts under Alternative B are from the designation of an additional 7,252,300 acres as ROW exclusion and an additional 1,000,300 acres as ROW avoidance, compared to Alternative A.

In exclusion areas, the BLM and Forest Service would be prohibited from approving new ROW development. In avoidance areas, development would be allowed only if certain siting and design requirements could be met. ROW restrictions under Alternative B would substantially reduce the ability of the BLM and Forest Service to accommodate demand for



interstate and intrastate gas pipelines and electric transmission lines, wind and solar energy development, fiber optic lines, and communication sites.

Impacts from Travel and Transportation Management

Impacts from travel and transportation management under Alternative B are the same as under Alternative A. Proposed action under Alternative B to prioritize travel management planning in PPMA, which would design and designate a travel system that minimizes adverse effects on GRSG habitat, is an activity-level process and would be accompanied by separate environmental review and documentation. Refer to **Section 4.6** for further analysis.

Impacts from Lands and Realty

Land Use Authorizations

Under Alternative B, 8,263,200 acres would be designated as ROW exclusion. Neither the BLM nor the Forest Service would authorize new ROWs in these areas unless the infrastructure could be located entirely within an existing ROW footprint. Additionally, 2,903,700 acres would be designated ROW avoidance. As noted above in **Section 4.7.2**, managing GRSG habitat as ROW exclusion or avoidance would prevent the BLM and Forest Service from accommodating new ROW development in those areas.

With a continuing demand for new ROWs in the planning area, including major interstate and intrastate electrical transmission lines, gas pipelines, and communication ROWs, developments would be diverted to adjacent private or state lands or would be prevented altogether. Development on adjacent lands could result in direct and indirect impacts on GRSG populations and habitat (e.g., vehicle traffic on roads crossing BLM- and Forest Service-administered lands). This would be the case especially if the development is close to GRSG habitat on BLM- or Forest Service-administered lands.

If new ROW development, particularly interstate electrical transmission, fiber optic, and gas pipelines, could not be feasibly developed due to ROW exclusions on BLM- and Forest Service-administered lands in the planning area, then energy and communication development opportunities needed to meet a growing demand would be reduced until alternative routes or technology could be developed.

Within avoidance areas, the BLM and Forest Service would continue to process ROW applications but would require additional requirements before authorizing the ROW. Supplemental design criteria and siting limitations would decrease the level of future ROW development in avoidance areas.

Additionally, under Alternative B, the BLM and Forest Service would take advantage of opportunities to remove, bury, or modify existing power lines. Limitations on new ROWs and aboveground lines, such as transmission lines and pipelines, could restrict the availability of energy or service availability and reliability for communication systems.

Wind and Solar ROWs

Under Alternative B, utility-scale wind and solar energy would be excluded on 8,263,200 acres and would be avoided on 2,903,700 acres. ROW exclusion and avoidance decreases the BLM's and Forest Service's ability to accommodate new wind and solar energy development in GRSG habitats. However, impacts would occur only in areas statewide that are considered developable, such as locations where wind speeds are greater than 23 feet [7 meters] per second). Therefore, excluding or avoiding wind and solar energy development in GRSG habitat would reduce but not eliminate renewable energy development potential within the sub-region.

Land Tenure and Landownership

The BLM and Forest Service would retain administration of public land in PPMA. Exceptions would be where land tenure adjustments would result in more contiguous federal ownership patterns or where disposal accompanied by a habitat mitigation agreement or conservation easement would result in more effective management of GRSG habitat. Impacts would be consistent with those described in **Section 4.7.2**.

Withdrawals

Under Alternative B, land withdrawals in PPMA and PGMA would total 2,219,200 acres. Additionally, the BLM or Forest Service would propose all PPMA for mineral withdrawal. However, withdrawal would be subject to Congress's approval. The BLM or Forest Service would not recommend approval of withdrawals for reasons other than mineral activity. In withdrawn areas, BLM- or Forest Service-administered lands would not be available for mineral extraction for a defined period. Impacts on mineral development are described in **Sections 4.8** through **4.11**.

Impacts from Special Area Designations

Under Alternative B there would be no impacts from ACECs or ZAs on lands and realty.

4.8.6 Alternative C

Sage-Grouse Management

Management actions under Alternative C to protect GRSG habitat would impact lands and realty through by designating 10,154,600 additional acres as ROW exclusion, compared to Alternative A. A ten-fold increase in ROW exclusion area would result in the most ROW restrictions of any alternative. It would prevent the BLM and Forest Service from accommodating demand for new transmission lines, gas pipelines, communication sites, wind energy facilities, and other types of ROWs. Additional management prescriptions for land tenure and road construction would further constrain BLM- and Forest Service-administered lands and realty program functions in GRSG habitat.

Impacts from Travel and Transportation Management

Impacts from travel and transportation management under Alternative C would prohibit new road construction within four miles (6.4 km) of active leks. The proposed management under Alternative C would limit new road construction on BLM-administered and Forest Service-administered lands throughout occupied habitat. Limitations on road construction



would reduce the number of new road ROW applications submitted to the BLM. The limitations would make certain areas impractical for new ROW authorizations, particularly in areas where there are few or no ROWs or roadways. Refer to **Section 4.6** for further analysis.

Impacts from Lands and Realty

Land Use Authorizations

Under Alternative C, all occupied habitat (11,165,500 acres) would be designated as ROW exclusion. The BLM and Forest Service would not authorize new ROWs in exclusion areas unless the infrastructure could be located in an existing ROW. Impacts under Alternative C are similar to Alternative B except that under Alternative C exclusion areas would apply to a larger land area. Therefore, Alternative C would further reduce opportunities for communication facilities, gas pipelines, fiber optic cables, electrical transmission lines, and similar ROW development. There is a continuing demand for these ROWs in the planning area to meet energy and communication needs outside the planning area; Alternative C would reduce the ability of the BLM and Forest Service lands and realty programs from meeting those needs.

Wind and Solar ROWs

Management of 11,165,500 acres as exclusion for utility-scale wind and solar energy development would eliminate the BLM and Forest Service's ability to accommodate any new wind or solar energy demand on that portion of GRSG habitat. ROW exclusions would also inhibit development on adjacent private and state land where transmission infrastructure would be needed across BLM- or Forest Service-administered lands.

Land Tenure and Landownership

Under Alternative C, the BLM and Forest Service would retain public ownership in PPMA, with no exceptions. Impacts would be consistent with those described in **Section 4.7.2**.

Withdrawals

Under Alternative C, the total acres of land withdrawals are the same as under Alternative A. However, GRSG-occupied habitat, would be withdrawn from mineral entry. Impacts under Alternative C from withdrawals are the same as under Alternative B, except that mineral withdrawal would apply to all GRSG habitat. Refer to **Sections 4.8** through **4.11** for further analysis related to mineral development.

Impacts from Special Designations Management

Under Alternative C, the BLM would designate 39 new ACECs, equivalent to approximately 3.6 million acres. No Forest Service ZAs would be designated. Management for the ACECs would be tailored to protect the relevant and important values (i.e., GRSG habitat) for which the ACECs would be designated. All lands within the ACECs would be managed as ROW exclusion, which would prohibit new ROW development in those areas. Under Alternative C, infrastructure development and other ROWs would be directed to adjacent BLM- or Forest Service-administered lands or to private lands. Alternative F would result in an overall reduction in new land use authorizations. New land use authorizations would be further

reduced if ROW applicants could not find suitable alternative development locations outside ACECs. Refer to **Section 4.12**, Special Designations, for further analysis.

4.8.7 Alternative D

Sage-Grouse Management

Management proposed under Alternative D would enable the BLM and Forest Service to accommodate certain types of ROW development, because there would be no exclusion areas. However, it would exclude ROWs for large infrastructure development, such as electrical transmission lines greater than 50kV, and renewable energy testing and generation, on 6,135,200 acres. In addition, there would also be 3,369,300 more acres of ROW avoidance areas, compared to Alternative A. Under Alternative D, the BLM- and Forest Service-administered lands and realty programs would be prevented from accommodating any new demand for electrical transmission or renewable energy development in exclusion areas. A large increase in avoidance areas, even if Alternative D would require no absolute exclusion areas, would affect the ability of the BLM and Forest Service to grant new ROWs in GRSG habitat.

Impacts from Travel and Transportation Management

Impacts from travel and transportation management under Alternative D are the same as under Alternative B. Refer to **Section 4.6** for further analysis.

Impacts from Lands and Realty

Land Use Authorizations

Alternative D would designate 310,000 acres as ROW exclusion for all ROW types, only one-third of the area excluded under Alternative A. However, it would also exclude large transmission lines, renewable energy ROWs, and new roadways on 6,135,200 acres. An additional 5,272,700 acres would be managed as ROW avoidance for all ROW types.

Alternative D would impact the BLM- and Forest Service-administered lands and realty programs by reducing their ability to authorize ROWs, such as electrical transmission lines greater than 50kV, within PPMA. Within avoidance areas, additional stipulations for the development of electrical transmission lines could result in the denial of projects that cannot meet ROW grant requirements to protect GRSG habitat. Limitations on electrical transmission line development, renewable energy development, and new roadways under Alternative D would be similar to Alternative C and are consistent with **Section 4.7.2**. Impacts on other types of ROWs and land use permits, such as electrical distribution lines, communication sites, fiber optic lines, pipelines, and water infrastructure, would result when an applicant could not find a suitable location outside avoidance or exclusion areas or could not meet the design and placement criteria for an ROW or other land use permit within an avoidance area. For communication facilities in particular, stipulations in avoidance areas could diminish the effectiveness of the communication infrastructure to the point where the development would not be practical, resulting in an impact on that type of infrastructure development and the communication network.



Wind and Solar ROWs

Alternative D would exclude wind and solar energy testing and generation facilities on 6,135,200 acres in GRSG habitat. These types of ROWs would be avoided on an additional 5,272,7003 acres in GRSG habitat. Impacts on wind energy ROWs would be consistent with **Section 4.7.2**. While excluding or avoiding wind and solar energy development in GRSG habitat would reduce development potential, impacts are concentrated primarily in areas south of Twin Falls and near Pocatello, where average wind speeds are greater than 23 feet (7 meters) per second (NREL 2009). This is the typical threshold for utility-scale wind energy to occur (NREL 2012). Therefore, Alternative D would reduce but not eliminate wind energy development potential within the sub-region. Impacts on solar energy development would be negligible due to a lack of solar potential in the planning area.

Land Tenure and Landownership

Under Alternative D, the BLM and Forest Service would retain public ownership in all GRSG habitats, except where there is mixed ownership and land tenure adjustment would promote a more contiguous land pattern in GRSG habitat. Management actions to retain public ownership would increase land management efficiency, as described in **Section 4.7.2**.

Withdrawals

There are no impacts from withdrawals under Alternative D.

Impacts from Special Designations Management

Under Alternative D, there are no impacts from ACECs or ZAs on lands and realty.

4.8.8 Alternative E

Sage-Grouse Management

Management actions under Alternative E to protect GRSG habitat would impact lands and realty through a 5,528,100-acre increase in ROW avoidance areas, compared to Alternative A. ROW avoidance criteria would impact the lands and realty program by limiting the areas where new ROW authorizations could be approved without supplemental siting and design criteria to protect GRSG habitat. Avoidance criteria would reduce the number of ROW applications, increase processing times for applications submitted for projects in avoidance areas, and direct new development to adjacent lands, where fewer restrictions would be present.

Impacts from Travel and Transportation Management

Impacts from travel and transportation management under Alternative E are the same as Alternative A. Refer to **Section 4.6** for further analysis.

Impacts from Lands and Realty

Land Use Authorizations

Under Alternative E, 8,479,600 acres in CHZ and IHZ would be designated as ROW avoidance, while 310,000 acres in PPMA would continue to be managed as ROW exclusion. New infrastructure would be prohibited in priority habitat, unless the infrastructure could be collocated in an existing ROW footprint and the infrastructure is critical for meeting

increasing demands. Limitations on new infrastructure outside existing ROWs and ROW stipulations for avoidance areas would prevent the BLM and Forest Service from accommodating additional demand for ROW development within CHZ and in IHZ. This could result in ROW applications being denied. With the expected demand for new ROWs in the planning area, particularly interstate and intrastate electrical transmission and gas pipeline ROW developments, new ROW development could be diverted to adjacent private or state lands. If new ROW development could not be feasibly developed there would be a reduction in energy and communication development opportunities to meet growing demand.

Wind and Solar ROWs

Alternative E would continue to exclude wind and solar energy testing and generation facilities on 310,000 acres, while avoiding these types of ROWs on 8,479,600 acres. Avoiding or excluding wind and solar energy development would reduce or eliminate development potential, especially in areas considered to have developable (i.e., average wind speeds greater than 23 feet [7 meters] per second) wind resources. Impacts on solar energy development are negligible due to a lack of solar potential in the planning area.

Land Tenure and Landownership

There are no impacts on lands and realty from land tenure requirements under Alternative E.

Withdrawals

There are no impacts from withdrawals under Alternative E.

Impacts from Special Designations Management

Under Alternative E, there are no impacts from ACECs or ZAs on lands and realty.

4.8.9 Alternative F

Sage-Grouse Management

Management actions under Alternative F to protect GRSG habitat would impact lands and realty by designating 7,252,300 additional acres as ROW exclusion, compared to Alternative A. Similar to Alternative B and consistent with **Section 4.7.2**, ROW exclusion areas under Alternative F would restrict the BLM and Forest Service from accommodating demand for new transmission lines, gas pipelines, communication sites, wind energy facilities, and other types of ROWs.

Impacts from Travel and Transportation Management

Impacts from travel and transportation management under Alternative F are the same as under Alternative A. Refer to **Section 4.6** for further analysis.

Impacts from Lands and Realty

Alternative F would designate 8,263,200 acres as ROW exclusion and 2,920,900 acres as avoidance. By not authorizing new ROWs in exclusion areas, the ability of the BLM and Forest Service to accommodate the demand for land use authorizations would be



diminished. Impacts are consistent with **Section 4.7.2** and would result in an overall decline in energy or service availability and reliability, when compared to Alternative A.

Wind and Solar ROWs

Alternative F would exclude wind and solar energy testing and generation facilities on 8,263,200 acres in GRSG habitat. These types of ROWs would be avoided on 2,920,900 acres. Impacts on wind energy ROWs under Alternative F are similar to Alternative B and are consistent with **Section 4.7.2**. While excluding or avoiding wind and solar energy development in GRSG habitat would reduce development potential, impacts would be concentrated in areas with average wind speeds greater than 23 feet (7 meters) per second since this is the typical threshold needed for utility-scale wind energy to occur (NREL 2012). Therefore, Alternative F would reduce but not eliminate wind energy development potential within the sub-region. Impacts on solar energy development are negligible due to a lack of solar potential in the planning area.

Land Tenure and Landonership

There are no impact on lands and realty from land tenure requirements under Alternative F.

Withdrawals

There are no impacts from withdrawals under Alternative F.

Impacts from Special Designations Management

Under Alternative F, the BLM would designate 17 or 18 new ACECs and Forest Service would designate 12 new ZAs, encompassing up to 7.8 million acres. Management for the ACECs and ZAs would be tailored to protect the relevant and important values (i.e., GRSG habitat) for which the ACECs and ZAs would be designated. All lands within the ACECs and ZAs would be managed as ROW exclusion, which would prohibit new ROW development in those areas. Under Alternative F, infrastructure development and other ROWs would be directed to adjacent BLM- or Forest Service-administered lands or to private lands. Alternative F would result in an overall reduction in new land use authorizations. These would be further reduced if ROW applicants could not find suitable alternative development locations outside ACECs or ZAs. Refer to **Section 4.12**, Special Designations, for further analysis.

4.9 Leasable Minerals (Leased and Unleased), Including Fluid Minerals and Nonenergy Solid Leasable Minerals

4.9.1 Fluid Minerals

This section discusses impacts on fluid minerals from proposed management actions for other resources and resource uses. Existing conditions concerning fluid minerals are described in **Section 3.12**.

Methods and Assumptions

The analysis of impacts on fluid minerals from this LUPA focuses on the impacts of conservation measures to protect GRSG. These impacts may be direct or indirect. For example, a direct impact on fluid minerals would result from closing an area to fluid mineral

leasing. An indirect impact would result from managing an area as ROW exclusion, which would change the economic feasibility of developing a site. Additional actions or conditions that might cause direct or indirect impacts on fluid minerals are described under *Indicators*, below.

Indicators

Indicators of impacts on fluid minerals are as follows:

- The amount of unleased land identified as closed to fluid mineral exploration and development
- The amount of land subject to NSO stipulations
- The amount of land subject to CSU stipulations
- The amount of land subject to TLs
- Application of COAs on fluid mineral development activities on leased parcels for the protection of GRSG
- Restrictions on geophysical exploration in GRSG habitat
- The amount of land managed as ROW avoidance areas
- The amount of land managed as ROW exclusion areas

Where information is available, consideration is given to the potential for fluid mineral resources on lands closed to leasing. For example, an indicator of an impact on fluid minerals is if there were substantial reductions in federal leasing and development of fluid mineral resources in high potential areas.

Assumptions

The analysis includes the following assumptions:

- Existing fluid mineral leases would not be affected by the closures proposed under this LUPA.
- Fluid mineral operations on existing federal leases, regardless of surface ownership, would be subject to COAs by the authorizing officer. The BLM can deny surface occupancy on portions of leases with COAs to avoid or minimize resource conflicts if this action does not eliminate reasonable opportunities to develop the lease or affect lease rights.
- Existing leases would be managed under the stipulations in effect when the leases were issued; new stipulations proposed under this LUPA would apply only on new leases. See the glossary for definitions of stipulations versus COAs.
- Under all alternatives, reclamation bonds would be required, pursuant to 43 CFR 3104 and 36 CFR 228.109(a), in an amount sufficient to ensure full restoration of lands to the condition in which they were found. In addition, Applications for



Permit to Drill would be required under all alternatives in accordance with 43 CFR 3162.

- The lands in the Curlew Grassland area that are administratively unavailable for leasing will remain so for the life of the Pocatello RMP. Therefore, these acres/hectares are included in the total number of acres/hectares closed to leasing under Alternative A.
- New information may lead to changes in delineated GRSG habitat. New habitats, or areas that are no longer habitat, may be identified. This adjustment would typically result in small changes to areas requiring the stipulations or management actions stated in this plan. Modifications to GRSG habitat would be updated in the existing data inventory through plan maintenance. In areas that are no longer habitat, the waiver/exception/modification process would be used to remove stipulations or management actions that were no longer needed.
- If an area is leased, it could be developed; however, not all leases would be developed within the life of this LUPA.
- As the demand for energy increases, so will the demand for extracting energy resources in areas with potential.
- Technological advancements, such as directional drilling, could lead to changes in levels of fluid mineral development potential throughout the planning area as additional resources become more easily accessible.
- Stipulations also apply to fluid mineral leasing on lands overlying federal oil and gas estate, which includes federal oil and gas estate underlying BLM-administered and Forest Service-administered lands and non-BLM-administered and Forest Service-administered lands. There are 32,028,100 acres of federal oil and gas estate within the decision area (29,638,300 acres of BLM-administered and Forest Service-administered surface with federal minerals and 2,389,800 acres of non-BLM-administered and non-Forest Service-administered surface with federal minerals). Federal oil and gas estate refers to mineral estate where the federal government controls the oil and gas resources.
- As discussed in **Section 3.12**, Mineral Resources, interest in oil and gas leasing in Idaho is expected to remain sporadic. There is some interest in leasing oil and gas resources within occupied habitat in the Bear Lake area. However, no drilling permits have been applied for or issued in Idaho, and this trend is expected to continue.

Nature and Type of Effects

The following analysis describes the nature and type of impacts that could affect fluid minerals in the Idaho and southwestern Montana planning area. Details on how the occurrence of each impact would vary by alternative are described under the various subheadings.

Closing areas within GRSG habitat to fluid mineral leasing would directly impact the fluid minerals program by removing the potential for mineral resources in that area to be accessed and extracted. Oil and gas operations may move to nearby private lands if similar geologic conditions exist, thereby reducing the number of operations on federal mineral estate. Closing lands to leasing would also result in a loss of royalties to the federal, state, and county governments from fluid mineral development.

Management actions that prohibit or restrict surface occupancy or disturbance (such as TLs, NSO stipulations, CSU stipulations, and limitations on the total amount of surface disturbance in areas) overlying federal fluid mineral resources would also directly impact the development of those resources. They would do this by restricting the ability of mineral resources to be developed or extracted. Surface-disturbing activities could be shifted, additional protective measures could be required, and extraction delays could occur.

In areas where NSO stipulations are applied, federal fluid minerals could be leased, but the leaseholder/operator would have to use off-site methods, such as directional drilling, to access the mineral resource. The area where directional drilling can be effectively used is limited, meaning some minerals may be inaccessible in areas where an NSO stipulation covers a large area or where no leasing is allowed on surrounding lands. Additionally, because it is not economically practical to use directional drilling for wildcat wells, an NSO stipulation would preclude drilling those wells.

Application of CSU stipulations allows the BLM and the Forest Service to require some use and occupancy of the surface. While less restrictive than an NSO, a CSU stipulation allows the BLM to require special operational constraints, to shift the surface-disturbing activity associated with fluid mineral leasing more than the standard 656 feet (200 meters), or to require additional protective measures (e.g., restrictions on noise levels) to protect GRSG. For example, a CSU stipulation might create a buffer around leks within which surface disturbance is not allowed. While not prohibiting surface-disturbing activities, a CSU stipulation can influence the location and level of operations within the subject area.

TL stipulations may be necessary to protect GRSG from impacts of development. These stipulations are necessary if impacts cannot be mitigated within the standard 60-day suspension of operation period afforded by regulation. Areas where TL stipulations are applied would be temporarily closed to fluid mineral exploration and development, surface-disturbing activities, and intensive human activity during identified time frames, based on seasons or GRSG breeding times. While some operations would be allowed at all times (e.g., vehicle travel and maintenance), construction, drilling, completions, and other operations considered to be intensive would not be allowed during the restricted time frame. Most activities, however, can be initiated and completed outside of the restricted dates specified in the TL stipulation.

Applying COAs, which include RDFs (see **Appendix C**) and conservation measures outlined in **Chapter 2 (Table 2-20)**, to existing leases would directly impact fluid mineral operations. These RDFs and conservation measures include such standards as noise restrictions, height limitations on structures, design requirements, water development



standards, remote monitoring requirements, and reclamation standards. Additional site-specific planning, such as master development plans and unitization, and reclamation bonding requirements may also be included. Applying all of these requirements through COAs would impact fluid mineral operations by restricting the ability of mineral resources to be developed or extracted. To avoid these restrictions, operators may move to nearby state or private minerals, thereby decreasing the number of oil and gas operations on federal mineral estate.

Placing limits on geophysical exploration could reduce the availability of data on fluid mineral resources on federal mineral estate. TLs on geophysical exploration could lead to extraction delays.

Management actions creating ROW exclusion or avoidance areas could indirectly increase the cost of fluid mineral extraction by limiting the available means for transporting fluid minerals to processing facilities and markets. For example, new natural gas pipelines could not be built in a ROW exclusion area. Oil and gas operations may move to nearby private lands where transport is easier, thereby reducing the number of operations on federal mineral estate. Impacts would be mitigated where exceptions were allowed for collocating new ROWs within existing ROWs to satisfy valid existing rights.

Implementing management for the following resources would have negligible or no impact on fluid minerals; therefore they are not discussed in detail: travel and transportation management, recreation, range management, solid minerals, fire and fuels management, habitat restoration and vegetation management, and special designations.

Alternative A

Impacts from Lands and Realty Management

Under Alternative A, 1,010,900 acres (4 percent of BLM- and Forest Service-administered surface in the decision area) would continue to be managed as ROW exclusion areas. Another 1,903,400 acres (6 percent of BLM- and Forest Service-administered surface in the decision area) would continue to be managed as ROW avoidance areas. This management would continue to impact the fluid minerals program, as described under **Nature and Type of Effects**.

Impacts from Unleased Fluid Minerals Management

Under Alternative A, new leases in most areas within the oil and gas decision area (26,175,580 acres) would continue to be open subject to standard terms and conditions. NSO stipulations would continue to be applied to 3,586,910 acres of federal oil and gas estate. Approximately 2,907,390 acres in the oil and gas decision area would remain closed to leasing. These management actions would continue to have the types of impacts described under **Nature and Type of Effects**.

Table 4-56, Oil and Gas Leasing Categories in the Decision Area, Alternative A, breaks down the acres within the decision area as to whether they would be open or closed to leasing and what stipulations would be applied. This breakdown is done by oil and gas occurrence potential (medium, low, and very low potential).

Table 4-56
Oil and Gas Leasing Categories in the Decision Area, Alternative A

Oil and Gas Development Potential	Closed to Leasing (acres)	Open Subject to NSO Stipulations (acres)	Open Subject to CSU Stipulations (acres)	Open subject to TL Stipulations (acres)	Open Subject to Standard Terms and Conditions (acres)
Medium	83,650	400,600	0	230,000	270,200
<i>Leased</i>	<i>3,950</i>	<i>20,400</i>	<i>0</i>	<i>28,800</i>	<i>37,000</i>
<i>Unleased</i>	<i>79,700</i>	<i>380,200</i>	<i>0</i>	<i>201,200</i>	<i>233,200</i>
Low	3,105,580	2,852,600	4,398,200	1,216,000	19,548,600
<i>Leased</i>	<i>6,680</i>	<i>17,600</i>	<i>0</i>	<i>16,500</i>	<i>173,000</i>
<i>Unleased</i>	<i>3,098,900</i>	<i>2,835,000</i>	<i>4,398,200</i>	<i>1,199,500</i>	<i>19,375,600</i>
Total	83,650	400,600	0	230,000	270,200
<i>Leased</i>	<i>3,950</i>	<i>20,400</i>	<i>0</i>	<i>28,800</i>	<i>37,000</i>
<i>Unleased</i>	<i>79,700</i>	<i>380,200</i>	<i>0</i>	<i>201,200</i>	<i>233,200</i>

Source: BLM 2013a

Under Alternative A, 83,650 acres with medium development potential (8 percent of the federal oil and gas estate with medium development potential) would remain closed to oil and gas leasing. This closure would include 79,700 acres (9 percent) of all unleased areas with medium development potential in the oil and gas decision area. Acres closed in this category would have the greatest impact on the fluid minerals program by prohibiting oil and gas development on portions of federal mineral estate with medium potential for such development. An additional 3,105,580 acres with low development potential would also remain closed to oil and gas leasing. Impacts of closing these areas to leasing are the same type as those described under **Nature and Type of Effects**.

Approximately 400,600 acres of federal oil and gas estate with medium development potential (41 percent of the federal oil and gas estate with medium development potential) would remain open to leasing subject to NSO stipulations. Acres subject to NSO stipulations in areas with medium development potential for oil and gas would have a greater impact on the fluid minerals program, compared to acres subject to NSO stipulations in areas with low (2,852,600 acres) development potential. This is because the likelihood of developing acres in areas with medium development potential is greater. Impacts of applying NSO stipulations to these areas are the same type as those described under **Nature and Type of Effects**.

Approximately 270,200 acres of federal mineral estate in medium and 19,548,600 acres in low development potential areas (totaling 19,818,800 acres of federal oil and gas estate) would be available for fluid mineral leasing and development with standard lease



stipulations. These lands would not be subject to additional NSO, CSU, or TL stipulations, thereby providing the most flexibility for oil and gas exploration and development.

Geophysical exploration would continue to be allowed in areas open to fluid mineral leasing. In areas closed to leasing where geophysical exploration would not be allowed, impacts would continue to be the type described under **Nature and Type of Effects**.

Under this alternative, 25 new oil and gas exploratory wells would be developed on federal mineral estate in the decision area in the next 20 years. This rate of development would allow oil and gas exploration to continue.

Under Alternative A, reclamation bonds would continue to be required, in accordance with 43 CFR 3104. In addition, applications for permits to drill, including drilling plans and surface use plans of operations, would continue to be required, in accordance with 43 CFR 3162. Unitization would continue to occur on a case-by-case basis at the discretion of operators.

Impacts from Leased Fluid Minerals Management

Under Alternative A, restrictive measures to mitigate impacts from oil and gas development on GRSG would continue to be considered on a case-by-case basis during implementation-level planning. Wherever these measures are applied to the 75 leases on 76,900 acres within GRSG habitat in the decision area, they would have impacts similar to those described for conservation measures under **Nature and Type of Effects**.

Alternative B

Impacts from Lands and Realty Management

Under Alternative B, 8,263,200 acres (27 percent) of BLM- and Forest Service-administered surface in the decision area (including all PPMA) would be managed as ROW exclusion areas. However, because all PPMA would be closed to fluid mineral leasing under Alternative B, managing areas as ROW exclusion in PPMA would have no impact on fluid minerals.

Like Alternative A, approximately 2,903,700 acres (9 percent) of BLM- and Forest Service-administered surface in the decision area (including all PGMA) would be managed as ROW avoidance under Alternative B. This management would have significant impact on oil and gasleasing as compared to Alternative A.

Impacts from Unleased Fluid Minerals Management

Under Alternative B, 10,973,100 acres, or 34 percent of the federal oil and gas estate decision area, including all federal oil and gas estate in PPMA, would be closed to oil and gas leasing. These closures would include 344,300 acres with medium potential (35 percent of the medium potential acres in the decision area). Closure of these acres would directly impact the fluid minerals program, as described under **Nature and Type of Effects**. Existing leases

would remain valid through their term but could not be renewed. **Table 4-57**, Oil and Gas Leasing Categories in the Decision Area, Alternatives B and F, breaks down the acres within the decision area as to whether they would be open or closed to leasing and what stipulations would be applied. This breakdown is done by oil and gas occurrence potential (medium or low potential).

Table 4-57
Oil and Gas Leasing Categories in the Decision Area, Alternatives B and F

Oil and Gas Potential	Closed to Leasing (acres)	Open Subject to NSO Stipulations (acres)	Open Subject to CSU Stipulations (acres)	Open Subject to TL stipulations (acres)	Open Subject to Standard Terms and Conditions (acres)
Medium	344,300	330,400	50,300	153,800	105,500
<i>Leased</i>	<i>18,200</i>	<i>21,200</i>	<i>16,200</i>	<i>27,100</i>	<i>7,300</i>
<i>Unleased</i>	<i>326,100</i>	<i>309,200</i>	<i>34,100</i>	<i>126,700</i>	<i>98,200</i>
Low	10,628,800	2,246,500	4,136,900	691,700	13,417,100
<i>Leased</i>	<i>23,300</i>	<i>18,100</i>	<i>19,300</i>	<i>26,900</i>	<i>126,100</i>
<i>Unleased</i>	<i>10,605,500</i>	<i>2,228,400</i>	<i>4,117,600</i>	<i>664,800</i>	<i>13,291,000</i>
Total	344,300	330,400	50,300	153,800	105,500
<i>Leased</i>	<i>18,200</i>	<i>21,200</i>	<i>16,200</i>	<i>27,100</i>	<i>7,300</i>
<i>Unleased</i>	<i>326,100</i>	<i>309,200</i>	<i>34,100</i>	<i>126,700</i>	<i>98,200</i>

Source: BLM 2013a

Under this alternative, four times more unleased acres with medium development potential would be closed to leasing (326,100 acres, or 36 percent of unleased areas with medium development potential) than under Alternative A. However, most acres with medium development potential in the decision area would be open to oil and gas leasing. Approximately 11 percent (98,200 acres) of unleased areas with medium development potential would be open subject to standard terms and conditions, while another 35 percent (309,200 acres) would be open subject to NSO stipulations. These closures of unleased areas with medium potential would have the greatest impacts on oil and gas development in the decision area because these areas would be the most likely to be developed if no constraints existed. Impacts would be the same type as those described under **Nature and Type of Effects**.

Management under Alternative B would close three times more unleased areas with low development potential (10,605,500 acres, or 34 percent of unleased areas with low potential in the decision area) than Alternative A. Impacts would be the same type as those described under **Nature and Type of Effects** and would increase in comparison with Alternative A; however, impacts of closing areas with low potential would not be as great as impacts of closing areas with medium potential.



The 23,292,800 acres of federal oil and gas estate within PGMA and outside occupied habitat (73 percent of the federal oil and gas decision area) would be subject to the same stipulations and management as under Alternative A.

Geophysical exploration would be allowed on the 8,735,300 acres of federal mineral estate within PPMA but would be subject to TLs and other restrictions. Most notably, geophysical exploration would be allowed only for gathering information about fluid mineral resources outside PPMA. Because of these limitations and the fact that PPMA would be closed to fluid mineral leasing, geophysical exploration in PPMA would decrease under this alternative. Decreases in geophysical exploration in PPMA could impact the fluid minerals program, as described under **Nature and Type of Effects**.

Under Alternative B, 15 new oil and gas exploratory wells would be developed on federal mineral estate in the decision area in the next 20 years. This represents a 40 percent decrease in projected wells on federal mineral estate, compared to Alternative A.

Impacts from Leased Fluid Minerals Management

Under Alternative B, conservation measures and RDFs would be applied as COAs to 22 existing leases on 31,700 acres of PPMA overlying federal mineral estate. These RDFs and conservation measures would include such requirements as surface disturbance limitations, TLs, noise restrictions, structure height limitations, design requirements, water development standards, remote monitoring requirements, and reclamation standards. The types of impacts from these COAs are the same as those described under **Nature and Type of Effects**.

In addition to the requirements described above, the COAs would require unitization when necessary to minimize harm to GRSG and would call for completion of master development plans for developing fluid mineral resources instead of processing individual applications for permit to drill. Requiring these plans would result in the impacts described under **Nature and Type of Effects**.

The BLM and Forest Service could not apply COAs that would eliminate reasonable opportunities to develop the lease. Therefore, although restrictions on development would increase where COAs were applied, oil and gas development would still be allowed.

Alternative C

Impacts from Lands and Realty Management

Under Alternative C, 11,165,500 acres (36 percent) of BLM- and Forest Service-administered surface in the decision area (including all BLM- and Forest Service-administered surface in GRSG habitat) would be managed as ROW exclusion areas. However, because all GRSG habitat would be closed to fluid mineral leasing under Alternative C, managing areas as ROW exclusion would have no impact on fluid minerals.

Impacts from Unleased Fluid Minerals Management

Under Alternative C, 14,023,300 acres, or 44 percent of the federal oil and gas decision area (including all federal oil and gas estate in occupied habitat) would be closed to oil and gas

leasing. Closure of the area to leasing would directly impact the fluid minerals program, as described under **Nature and Type of Effects**; however, because four times more acres would be closed under Alternative C than under Alternative A, the magnitude of those impacts would increase. This alternative would prohibit any new oil and gas leasing in occupied habitat. **Table 4-58**, Oil and Gas Leasing Categories in the Decision Area, Alternative C, breaks down the acres closed by oil and gas development potential (medium or low potential).

Table 4-58
Oil and Gas Leasing Categories in the Decision Area, Alternative C

Oil and Gas Potential	Closed to Leasing (acres)	Open Subject to NSO Stipulations (acres)	Open Subject to CSU Stipulations (acres)	Open Subject to TL Stipulations (acres)	Open Subject to Standard Terms and Conditions (acres)
Medium	513,700	222,900	50,300	101,500	95,900
<i>Leased</i>	29,400	16,100	16,200	21,100	7,300
<i>Unleased</i>	484,300	206,800	34,100	80,400	88,600
Low	13,509,600	1,850,800	3,805,500	494,200	11,461,100
<i>Leased</i>	42,900	11,200	18,800	18,800	122,000
<i>Unleased</i>	13,466,700	1,839,600	3,786,700	475,400	11,339,100
Total	513,700	222,900	50,300	101,500	95,900
<i>Leased</i>	29,400	16,100	16,200	21,100	7,300
<i>Unleased</i>	484,300	206,800	34,100	80,400	88,600

Source: BLM 2013a

Geophysical exploration would be subject to the same restrictions as those under Alternative B; however, these restrictions would apply to more acres under Alternative C (12,039,500 acres). Therefore, the types of impacts described under **Nature and Type of Effects** would increase under this alternative.

Under this alternative, six times more unleased acres with medium development potential would be closed to leasing (484,300 acres, or 54 percent of unleased areas with medium development potential) than under Alternative A. Approximately 10 percent (88,600 acres) of unleased areas with medium development potential would be open subject to standard terms and conditions, while another 23 percent (206,800 acres) would be open subject to NSO stipulations. These closures of unleased areas with medium potential would have the greatest impacts on oil and gas development in the decision area because these areas would be the most likely to be developed if no constraints existed. Impacts would be the same type as those described under **Nature and Type of Effects**.

Management under Alternative C would close four times more unleased areas with low development potential (13,466,700 acres, or 44 percent of unleased areas with low potential in the decision area) than Alternative A. Impacts would be the same type as those described under **Nature and Type of Effects** and would increase in comparison with Alternative A;



however, impacts of closing areas with low potential would not be as great as impacts of closing areas with medium potential.

Under this alternative, 13 new oil and gas exploratory wells would be developed on federal oil and gas estate in the decision area in the next 20 years. This represents a 48 percent decrease in projected wells on federal oil and gas estate, compared to Alternative A.

Impacts from Leased Fluid Minerals Management

Management actions applicable to existing leases under Alternative C would be similar to those under Alternative B, but they would apply to 60 existing leases on 62,800 acres of federal mineral estate. In addition to applying the restrictive management under Alternative B to more acres, Alternative C would call for COAs implementing seasonal restrictions on vehicle traffic and human presence associated with exploratory drilling. This alternative also would limit new surface disturbance on existing leases to three percent per section, with some exceptions. Impacts of these operating and siting restrictions are the same type as those described under **Nature and Type of Effects**.

Alternative D

Impacts from Lands and Realty Management

Like Alternative A, under Alternative D, 1,090,700 acres (4 percent) of BLM- and Forest Service-administered surface in the decision area would be managed as ROW exclusion areas. A total of 3,075,800 acres (10 percent), including all PMMA and PGMA, would be managed as ROW avoidance areas. Where these exclusion or avoidance areas overlap with areas open to fluid mineral leasing, impacts on the fluid minerals program would occur, as described under **Nature and Type of Effects**. Because three times more acres would be managed as ROW avoidance under Alternative D than under Alternative A, the magnitude of impacts would increase.

Impacts from Unleased Fluid Minerals Management

Under Alternative D, fluid mineral allocations in PPMA and PMMA would vary depending on oil and gas development potential. Federal mineral estate with no or low oil and gas potential would be closed to leasing, while federal mineral estate with medium oil and gas development potential would be subject to CSU and TL stipulations, and an NSO stipulation would apply within 0.6 mile (1 km) of leks. A total of 10,718,800 acres (33 percent of the federal oil and gas decision area) would be closed under this alternative. Approximately 2,744,600 acres (9 percent) would be subject to NSO stipulations, 4,322,100 acres (13 percent) would be subject to CSU stipulations, and 2,847,300 acres (9 percent) would be subject to TL stipulations. Approximately 11,472,600 acres (36 percent of the federal oil and gas decision area) would be open to leasing subject to standard terms and conditions. Impacts of these stipulations would be the types described in **Nature and Type of Effects**. Closures would cause the most impacts out of all these management actions due to a four-fold increase compared with Alternative A. However, over 99 percent of the acres that would be closed under Alternative D (10,628,800 acres) have low or very low development potential and are less likely to be developed even without management constraints.

New leases in PGMA (regardless of oil and gas potential) would be subject to TLs, and the 0.6-mile NSO buffer would also apply.

Table 4-59, Oil and Gas Leasing Categories in the Decision Area, Alternative D, breaks down the acres within the decision area by whether they would be open or closed to leasing and what stipulations would be applied. This breakdown is done by oil and gas development potential (medium or low).

Table 4-59
Oil and Gas Leasing Categories in the Decision Area, Alternative D

Oil and Gas Potential	Closed to Leasing (acres)	Open Subject to NSO Stipulations (acres)	Open Subject to CSU (acres)	Open Subject to TL Stipulations (acres)	Open Subject to Standard Terms and Conditions (acres)
Medium	89,950	446,200	189,100	164,600	94,500
<i>Leased</i>	3,950	24,400	27,300	27,600	6,900
<i>Unleased</i>	86,000	421,800	161,800	137,000	87,600
Low	10,628,800	2,298,400	4,133,000	2,682,700	11,378,100
<i>Leased</i>	23,300	18,100	19,300	31,000	122,000
<i>Unleased</i>	10,605,500	2,280,300	4,113,700	2,651,700	11,256,100
Total	89,950	446,200	189,100	164,600	94,500
<i>Leased</i>	3,950	24,400	27,300	27,600	6,900
<i>Unleased</i>	86,000	421,800	161,800	137,000	87,600

Source: BLM 2013a

Under Alternative D, 86,000 unleased acres with medium development potential (10 percent of total unleased acres with medium development potential in the oil and gas decision area) would be closed to leasing, representing an 8 percent increase compared with Alternative A. Approximately 421,800 acres (47 percent) of unleased areas with medium development potential would be subject to NSO stipulations. This represents an 11 percent increase compared with Alternative A. Approximately 161,800 acres (18 percent) of unleased federal oil and gas estate with medium development potential would be subject to CSU stipulations. Because no CSU stipulations are imposed under Alternative A, the impacts of these stipulations would increase under Alternative D. Impacts would be the same type as those described under **Nature and Type of Effects**. Overall, because more acres with medium development potential would be closed or subject to NSO or CSU stipulations under Alternative D compared with Alternative A, impacts on unleased oil and gas from fluid mineral allocations would increase under Alternative D.

New leases within PPMA and PMMA would be subject to density limitations and a three percent disturbance cap for each section. These limitations on surface disturbance would have the cost impacts described under **Nature and Type of Effects**.



Geophysical exploration in GRSG habitat would be subject to TL stipulations. Impacts of these stipulations are the same types as those described under **Nature and Type of Effects**. Because these types of stipulations would not be applied under Alternative A, impacts on the fluid minerals program would increase under Alternative D.

Under this alternative, 23 new oil and gas exploratory wells would be developed on federal mineral estate in the decision area in the next 20 years. This represents an eight percent decrease in projected wells on federal mineral estate compared with Alternative A.

Impacts from Leased Fluid Minerals Management

Management of existing fluid mineral leases under Alternative D would be the same as that under Alternative B, except that all management actions other than RDFs would apply to 74 existing leases on 76,800 acres within GRSG habitat, instead of applying only to the 22 existing leases in PPMA. For this reason, impacts on the fluid minerals program from these actions are more similar to Alternative C. Existing leases in PGMA could be subject to discretionary mandatory RDFs.

Alternative E

Impacts from Lands and Realty Management

Like Alternative A, under Alternative E, 1,060,300 acres (4 percent) of BLM- and Forest Service-administered surface in the decision area would be managed as ROW exclusion areas. A total of 6,625,100 acres (22 percent), including all CHZ and IHZ not already managed as ROW exclusion areas, would be managed as ROW avoidance areas. Where these exclusion or avoidance areas overlapped with areas open to fluid mineral leasing, impacts on the fluid minerals program are as described under **Nature and Type of Effects**. Because more acres would be managed as ROW avoidance under Alternative E than under Alternative A, the magnitude of impacts would increase. Impacts would be mitigated where exemptions were allowed for ROW development subject to certain conditions.

Impacts from Unleased Fluid Minerals Management

Under Alternative E, fluid mineral management would differ between portions of the decision area in Idaho and Montana and portions in Utah.

Within Idaho and Montana, new leases on federal oil and gas estate within CHZ and IHZ would be subject to NSO stipulations. Application of NSO stipulations would have the type of impacts described under Nature and Type of Effects; however, the impacts on fluid minerals would be mitigated by waivers where certain criteria were met.

Within Utah, new leases on federal oil and gas estate within PPMA would be subject to CSU and TL stipulations. Impacts of these stipulations are the same type as those described under **Nature and Type of Impacts**.

Table 4-60, Oil and Gas Leasing Categories in the Decision Area, Alternative E, breaks down the acres within the decision area as to whether they would be open or closed to leasing and what stipulations would be applied. This breakdown is done by oil and gas development potential (medium or low potential).

Table 4-60
Oil and Gas Leasing Categories in the Decision Area, Alternative E

Oil and Gas Potential	Closed to Leasing (acres)	Open Subject to NSO Stipulations (acres)	Open Subject to CSU (acres)	Open Subject to TL Stipulations (acres)	Open Subject to Standard Terms and Conditions (acres)
Medium	89,950	585,800	50,300	153,800	104,360
<i>Leased</i>	3,950	35,400	16,200	27,100	7,360
<i>Unleased</i>	86,000	550,400	34,100	126,700	97,000
Low	3,125,660	9,205,300	4,225,300	663,400	13,901,300
<i>Leased</i>	6,760	34,700	19,300	26,900	126,100
<i>Unleased</i>	3,118,900	9,170,600	4,206,000	636,500	13,775,200
Total	89,950	585,800	50,300	153,800	104,360
<i>Leased</i>	3,950	35,400	16,200	27,100	7,360
<i>Unleased</i>	86,000	550,400	34,100	126,700	97,000

Source: BLM 2013a

Under Alternative E, 86,000 unleased acres with medium development potential (10 percent of total unleased acres with medium development potential in the oil and gas decision area) would be closed to leasing, representing an 8 percent increase compared with Alternative A. Approximately 550,400 acres (62 percent) of unleased areas with medium development potential would be subject to NSO stipulations. This represents a 45 percent increase compared with Alternative A. Approximately 34,100 acres (4 percent) of unleased federal oil and gas estate with medium development potential would be subject to CSU stipulations. Because no CSU stipulations are imposed under Alternative A, the impacts of these stipulations would increase under Alternative E. Impacts would be the same type as those described under **Nature and Type of Effects**. Overall, because more acres with medium development potential would be closed or subject to NSO or CSU stipulations under Alternative E compared with Alternative A, impacts on unleased oil and gas from fluid mineral allocations would increase under Alternative E.

Within Idaho and southwestern Montana, management of geophysical exploration would be the same as that under Alternative A, with the same impacts. Within Utah, geophysical exploration in PPMA would be subject to the same CSU and TL stipulations applied to new leases in PPMA. Impacts are the same type as those described under **Nature and Type of Effects**. Because geophysical exploration in Utah would be restricted under this alternative and would not be restricted under Alternative A, impacts would increase, compared with Alternative A.



Under this alternative, 13 new oil and gas exploratory wells would be developed on federal mineral estate in the decision area in the next 20 years. This represents an 18 percent decrease in projected wells on federal mineral estate, compared to Alternative A.

Impacts from Leased Fluid Minerals Management

Management of existing leases in the decision area would be similar to that under Alternative A, except that BMPs would be applied. Because these BMPs would not be mandatory, their application would not necessarily result in additional impacts on fluid minerals.

Alternative F

Impacts from Lands and Realty Management

Like Alternative C, under Alternative F, 7,717,800 acres (26 percent) of BLM- and Forest Service-administered surface in the decision area (including all BLM- administered and National Forest System surface within GRSG habitat) would be managed as ROW exclusion areas. However, because all occupied habitat would be closed to fluid mineral leasing under Alternative F, managing areas as ROW exclusion in the decision area would have no impact on fluid minerals.

Impacts from Unleased Fluid Minerals Management

Unleased fluid minerals management would be the same under Alternative F as that under Alternative B (See **Table 4-57**, Oil and Gas Leasing Categories in the Decision Area, Alternatives B and F). All PPMA (34 percent of the decision area) would be closed to leasing.

Impacts from Leased Fluid Minerals Management

Under Alternative F, the 22 existing leases in PPMA would be subject to management, similar to that under Alternative B. However, under Alternative F, TLs would prohibit human presence and surface-disturbing activities during the nesting and brood-rearing season. This management would be the most restrictive of all the alternatives.

4.9.2 Geothermal

Methods and Assumptions

Indicators

Indicators of impacts on geothermal resources are as follows:

- The amount of land identified as closed to geothermal leasing
- The amount of land subject to NSO stipulations
- The amount of land subject to CSU stipulations and/or TLs
- The amount of land identified as ROW exclusion areas
- The amount of land identified as ROW avoidance areas
- The application of lease notices for the protection of GRSG on new leases

- The application of COAs for the protection of GRSG on existing leases
- Restrictions on geophysical exploration in GRSG habitat

Assumptions

The analysis includes the following assumptions:

- Geothermal operations on existing federal leases, regardless of surface ownership, would be subject to COAs by the BLM or Forest Service authorized officer. The BLM and Forest Service can deny surface occupancy on portions of leases with COAs to avoid or minimize resource conflicts if this action does not eliminate reasonable opportunities to develop the lease.
- Valid existing geothermal leases would be managed under the stipulations in effect when the leases were issued; new stipulations proposed under this LUPA would apply only on new leases. See the glossary for definitions of stipulations versus COAs.
- If an area is leased, it could be developed; however, not all leases would be developed within the life of this LUPA.
- As the demand for energy increases, so will the demand for developing geothermal resources.
- Technological advancements, such as enhanced and engineered geothermal systems, could lead to changes in levels of geothermal mineral development potential throughout the planning area.
- Stipulations apply to geothermal leasing on all lands overlying federal mineral estate, which includes federal mineral estate underlying BLM- and Forest Service-administered and lands not administered by the BLM Forest Service.

For geothermal energy, the above criteria were evaluated in addition to areas closed to leasing and areas with NSO, CSU and TL stipulations. All of these factors are considered to be impediments to geothermal energy development. Alternatives with greater acreages of such restrictions are considered to have a greater impact on geothermal energy development potential than alternatives with fewer acres of such restrictions.

Nature and Type of Effects

Geothermal energy cannot be developed in areas closed to fluid mineral leasing. These closures would directly impact the fluid minerals program by prohibiting the development of geothermal energy on portions of federal mineral estate. Geothermal operations would be limited in their choice of project locations and could be forced to develop in areas that are challenging to access or have fewer economic resources because other, more ideal areas could be closed to leasing. This could raise the cost of geothermal development in the decision area and could result in operators moving to nearby nonfederal minerals.



In areas with NSO stipulations, geothermal resources can only be accessed by directional drilling from a point on the surface that is not covered by NSO. NSO stipulations are nearly as restrictive to geothermal energy development as an area being closed to leasing. Any geothermal projects proposed in areas of CSU and TL stipulations would have added cost and scheduling challenges.

Collocating utilities within designated corridors would reduce land use conflicts by grouping similar facilities and activities in specific areas and away from conflicting developments and activities. It would also clarify the preferred locations for utilities on BLM- and Forest Service-administered lands, would make construction and maintenance of the facilities easier, and would simplify the application processing for new facilities. However, designation of corridors could limit options for ROW and facility design and selection of more preferable locations.

While ROW grants are not needed for roads or transmission lines within a leased area, such grants are required for roads and transmission lines that are off leased areas. The identification of an area of land as a ROW exclusion area is likely to hinder any geothermal development in the area due to restrictions of access and transmission. ROW avoidance areas can result in reroutes and limited options for access and transmission and could either stop a project from happening or increases its costs.

Impacts Common to All Alternatives

Table 4-61, Management Actions Affecting Geothermal Development, provides an overview of impacts across alternatives on geothermal development potential through showing the various restrictions placed on leasing, exploration, and development for both unleased and already leased lands.

Table 4-61
Management Actions Affecting Geothermal Development

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
ROW Exclusion	190,700	8,592,700	11,158,900	950	978,600	2,622,900
ROW Avoidance	549,200	2,622,900	0	11,406,800	7,810,900	30
Closed to Leasing (Acres)	1,316,400	2,708,300	3,725,100	345,200	343,000	2,727,800
Open Subject to NSO Stipulations (Acres)	1,370,700	95,400	0	312,400	290,500	100,600
Open Subject to CSU/TL Stipulations (Acres)	1,515,400	34,700	0	3,142,500	160,100	34,700
Open Subject to Standard Terms and Conditions (Acres)	7,008,700	886,800	0	0	2,950,800	1,196,000

Table 4-61
Management Actions Affecting Geothermal Development

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Management of Existing Geothermal Leases						
Subject to COAs Based on Priority Habitat (Acres)	0	0.3	0	560	0	0.3
Subject to COAs Based on General Habitat (Acres)	0	0	0	0	0	0
Subject to Standard Terms and Conditions (Acres)	2,140	0	0	0	0	0

Source: BLM 2013a

Alternative A

Impacts from Fluid Minerals Management

Nearly all the acreage within the decision area is assumed to have geothermal potential. Under Alternative A, the federal mineral estate currently open to geothermal leasing would remain open.

There are 24,437 acres of federal geothermal leases within GRSG habitat in the decision area. Development of these leases would continue to be subject to the existing stipulations placed upon them. Leases within occupied habitat would continue to be developed according to their lease terms, which may include disturbance buffers and TLs in GRSG habitat. COAs could be applied to mitigate or prevent impacts on BLM- and Forest Service-administered lands or other resources, and BMPs could be incorporated as COAs.

Continuing to apply disturbance buffers and seasonal TLs on surface-disturbing and disruptive activities in portions of GRSG breeding, nesting, and winter habitat would directly impact development of geothermal resources. It would do this by limiting the siting, design, and operations of geothermal development projects. This, in turn, could force operators to use more costly development methods (such as horizontal drilling) than they otherwise might have used. Equipment shortages could result from applying TLs because a bottleneck could be created during the period in which activity would be allowed.

Geophysical exploration would continue to be allowed in the decision area wherever acres are open to geothermal leasing. However, geophysical exploration in GRSG habitat would continue to be subject to any applicable disturbance buffers or TLs required in current LUPs.



The existing geothermal leases were issued with stipulations in place, and thus no additional stipulations can be added to those leases. Geothermal development within the population areas would be subject to COAs placed on the project at the time of subsequent NEPA analysis. Development would be subject to any restrictions resulting from ESA Section 7 Consultation with the USFWS regarding any listed species in the project area.

Alternative B

Impacts from Fluid Minerals Management

Table 4-61, Management Actions Affecting Geothermal Development, compares the acres of geothermal potential within the decision area as to whether they would be open or closed to leasing and what stipulations would be applied.

Under Alternative B, all PPMA (2,708,300 acres) would be closed to geothermal leasing. Alternative B would close to leasing 8.5 times the amount of land with geothermal potential (2,424,500 more acres) than under Alternative A. As such, Alternative B would be more restrictive of geothermal exploration and development than Alternative A.

Continuing to apply disturbance buffers and seasonal TLs on surface-disturbing and disruptive activities in portions of GRSG breeding, nesting, and winter habitat would have the same impacts as described under Alternative A.

Under Alternative B, conservation measures in addition to RDFs would be applied as COAs to existing leases within PPMA overlying federal mineral estate. These RDFs and conservation measures would include such requirements as surface-disturbance limitations, seasonal restrictions on activities in certain areas, noise restrictions, structure height limitations, design requirements, water development standards, remote monitoring requirements, and reclamation standards. Application of these requirements through COAs would impact geothermal operations by increasing costs if they resulted in the application of additional requirements or use of more expensive technology (such as remote monitoring systems). To avoid costs, operators could move to nearby nonfederal minerals.

Existing geothermal leases were issued with stipulations in place, and no additional stipulations could be added to these leases. The potential for the development of geothermal resources within the geothermal reasonable foreseeable development scenario (RFDS) area under Alternative B is the same as under Alternative A.

Alternative C

Impacts from Fluid Minerals Management

Table 4-61, Management Actions Affecting Geothermal Development, compares the acres of geothermal potential within the decision area as to whether they would be open or closed to leasing and what stipulations would be applied.

Under Alternative C, 3,725,100 acres would be closed to geothermal leasing. Alternative C would close to leasing an additional 3,441,300 acres, 13 times more acres of lands with geothermal potential within the decision area that are open under Alternative A.

Management applicable to existing leases under Alternative C would be similar to those under Alternative B, but they would apply to 24,400 acres of existing leases on federal mineral estate within PPMA. In addition to applying the restrictive management under Alternative B to more acres, Alternative C would also call for COAs implementing seasonal restrictions on vehicle traffic and human presence associated with exploratory drilling. This alternative also would limit new surface disturbance on existing leases to three percent per year across the entire planning area, with some exceptions. Impacts of these operating and siting restrictions are the same type as those described under Alternative B.

Under Alternative C, geophysical exploration would be prohibited on 3,725,100 acres of federal mineral estate within occupied habitat. The closure of this acreage would reduce the lands available for geothermal exploration, compared with Alternative A.

Impacts on the geothermal RFDS area from fluid minerals management are the same as those described under Alternative B.

Alternative D

Impacts from Fluid Minerals Management

Table 4-61, Management Actions Affecting Geothermal Development, compares the acres of geothermal potential within the decision area by whether they would be open or closed to leasing and what stipulations would be applied.

Under Alternative D, CSU and TL stipulations would be applied to the entire 3,142,500 acres of potential geothermal lands that were open, with only standard stipulations under Alternative A. Another 312,400 acres would change status from open with only standard stipulations, under Alternative A, to open with NSO stipulations under Alternative D.

The CSU stipulations would include noise and tall structure limitations and, at times, a site-specific plan of development to limit habitat fragmentation. Application of these surface disturbance restrictions, TLs, and other operating standards would limit the siting, design, and operations of geothermal development projects in the manner described under Alternative A. However, these impacts would be mitigated in PGMA, where off-site mitigation would allow operators to waive the applicable stipulations.

For existing leases, the BLM and Forest Service would apply the same RDFs from Alternative B to all three GRSG management areas. However, exceptions to application of RDFs could mitigate impacts. Exceptions would occur where a design feature was not applicable (e.g., a resource is not present on a given site) or where the design feature would not actually provide additional protection for GRSG or its habitat.



Alternative D's RDFs would be the same under Alternative B, except that surface occupancy buffers and TLs would not apply to surface disturbance; rather, the BLM and Forest Service would aim to minimize habitat loss, fragmentation, and direct and indirect effects on GRSG and habitat. The impacts of applying these RDFs and conservation measures are the same type as those described under Alternative B. On- or off-site mitigation would be used to minimize impacts on GRSG. Where operators use such mitigation to protect GRSG, geothermal development costs would increase compared with Alternative A due to the additional expense of mitigation activities.

Under Alternative D, geophysical exploration would be prohibited on 345,200 acres of federal mineral estate within the planning area. The closure of these acres would reduce the lands available for geothermal exploration, compared with Alternative A.

Impacts on the geothermal RFD area from fluid minerals management are the same as those described under Alternative A.

Alternative E

Impacts from Fluid Minerals Management

Table 4-61, Management Actions Affecting Geothermal Development, compares the acres of geothermal potential within the decision area as to whether they would be open or closed to leasing and what stipulations would be applied.

Under Alternative E, no additional acres of geothermal development would be closed to geothermal leasing when compared with Alternative A. NSO stipulations would be added to 290,500 acres of geothermal potential lands under Alternative E. Alternative E would also result in an additional 160,100 acres of potential geothermal lands that were open only with standard stipulations under Alternative A, to be open subject to CSU and TL stipulations. Existing leases would remain valid through their term but could not be renewed.

CSU stipulations and TLs would also apply to geophysical exploration within PPMA. Impacts of these restrictions on geophysical exploration are the same type as those described under Alternative A.

Under Alternative E, no management actions from this plan amendment would apply to the federal mineral estate outside of PPMA in the decision area. Management of these areas and impacts of that management are the same as those described under Alternative A.

The potential for the development of geothermal resources within the geothermal RFDS area is considered to be the same under Alternative E as it is under Alternative A.

Alternative F

Impacts from Fluid Minerals Management

Table 4-61, Management Actions Affecting Geothermal Development, compares the acres of geothermal potential within the decision area as to whether they would be open or closed to leasing and what stipulations would be applied.

Under Alternative F, 2,727,800 acres would be closed to geothermal leasing. Alternative C would close to leasing an additional 2,444,045 acres, 8.6 times more lands with geothermal potential within the decision area than under Alternative A.

Management applicable to existing leases under Alternative F would be similar to that under Alternative B, but it would apply to 4,360 acres of existing leases on federal mineral estate within PGMA. In addition to applying the restrictive management under Alternative B to more acres, Alternative F would also call for COAs implementing seasonal restrictions on vehicle traffic and human presence associated with exploratory drilling. This alternative also would limit new surface disturbance on existing leases to three percent per section, with some exceptions. Impacts of these operating and siting restrictions are the same type as those described under Alternative B.

Under Alternative F, geophysical exploration would be prohibited on 19,400 acres of federal mineral estate within PPMA. The closure of this area would reduce the lands available for geothermal exploration, compared with Alternative A.

Impacts on the geothermal RFDS area from fluid minerals management are the same as those described under Alternative B.

4.10 Locatable Minerals

This section discusses impacts on locatable minerals from proposed management actions of other resources and resource uses. Existing conditions concerning locatable minerals are described in **Section 3.12**.

4.10.1 Methods and Assumptions

The analysis of impacts on locatable minerals from this LUPA focuses on the impacts of conservation measures to protect GRSG. These impacts may be direct or indirect. For example, a direct impact on locatable minerals would result from withdrawing an area from locatable mineral entry. An indirect impact would result by removing a road, which would change the economic feasibility of developing a site. Additional actions or conditions that might cause direct or indirect impacts on locatable minerals are described below.

Indicators

Indicators of impacts on locatable minerals are as follows:

- The amount of land withdrawn from locatable mineral entry



- The amount of land petitioned for withdrawal from locatable mineral entry
- The amount of land under claim subject to buyout or validity exam
- Application of restrictions, such as RDFs and conservation measures, that can be placed on locatable mineral development activities to prevent unnecessary or undue degradation of GRSG habitat as the law allows

Where information is available, consideration is given to the potential for locatable minerals on lands withdrawn from locatable mineral entry. For example, an indicator of an impact on locatable minerals is if there were substantial withdrawals from locatable mineral entry in high potential areas.

Assumptions

The analysis includes the following assumptions:

- New information may lead to changes in delineated GRSG habitat. New habitats, or areas that are no longer habitat, may be identified. This adjustment would typically result in small changes to areas requiring the stipulations or management actions stated in this plan. Modifications to GRSG habitat would be updated in the existing data inventory through plan maintenance. In areas that are no longer habitat, the waiver/exception/modification process would be used to remove stipulations or management actions that were no longer needed.
- Management actions to withdraw areas from locatable mineral entry or prevent unnecessary or undue degradation also apply to locatable mineral activity on lands overlying federal locatable mineral estate, which includes federal locatable mineral estate underlying BLM- and Forest Service-administered lands, and lands managed by other entities. There are 32,023,500 acres of federal locatable mineral estate within the decision area (29,772,700 acres of BLM- and Forest Service-administered surface with federal locatable minerals and 2,250,800 acres of surface with federal minerals on land not administered by the BLM). Federal locatable minerals refers to mineral estate where the federal government controls the locatable minerals.
- Information on locatable mineral withdrawals is not available for 33,000 acres of federal oil and gas estate in the Butte Field Office in Montana (less than one percent of the federal locatable mineral decision area).
- Areas recommended for withdrawal would be withdrawn.
- As discussed in **Section 3.12**, Mineral Resources, there are 60 authorized plans of operations or notices in the planning area, and 20 more are pending. Demand for and development of locatable minerals in the planning area is expected to remain steady. However, new electronic products requiring materials that have not been historically used, such as rare earth elements, could change demand and development patterns in the future.

- Historical patterns of locatable mineral development in the planning area are used to assess the level of locatable mineral potential throughout the planning area. Areas with a high level of historical development are considered to have high potential for locatable minerals.

4.10.2 Nature and Type of Effects

Withdrawal from mineral entry removes the potential for future mineral development.

Existing mining claims in areas withdrawn from locatable mineral entry would have to undergo a validity exam to be reviewed for notices or approved for plans of operations. Mining claims with an economic discovery on the date of the withdrawal are valid; all others become void. Withdrawal of areas larger than 5,000 acres would require Congressional approval.

Existing notices or plans of operations would also have to undergo a validity exam before review (for notice) or approval (for plan of operations) of any material change to the operation. The need to perform validity exams in areas withdrawn from locatable mineral entry would also greatly increase the burden on the BLM and Forest Service associated with processing mining claims, notices, and plans of operations.

Implementing management for the following resources would have negligible or no impact on locatable minerals; therefore they are not discussed in detail: GRSG, lands and realty, habitat restoration and vegetation, invasive species, wildland fire, nonenergy solid leasable minerals, salable minerals, fluid minerals, recreation and visitor services, livestock grazing, and special designations.

4.10.3 Impacts on Locatable Minerals Common to All Alternatives

The nature and type of impacts described below are common to all alternatives, but the context and intensity may vary by alternative.

Impacts from Locatable Minerals Management

Under all alternatives, approximately 2,466,100 acres, 8 percent of the total federal mineral estate open to mineral entry, would remain withdrawn from the location of mining claims, precluding new exploration and mining. **Table 4-62**, Quantitative Impacts on Locatable Minerals, illustrates the change in acres open to locatable mineral entry and to be petitioned for withdrawal from locatable mineral entry across the alternatives.

Table 4-62
Quantitative Impacts on Locatable Minerals

Locatable Minerals	Alternatives A, D, and E	Alternatives B and F	Alternative C
Total federal mineral estate for locatable minerals	32,023,500	32,023,500	32,023,500
Total acres withdrawn from locatable mineral entry	2,466,100	2,466,100	2,466,100
<i>High likelihood of interest</i>	<i>36,600</i>	<i>36,600</i>	<i>36,600</i>
<i>Moderate likelihood of interest</i>	<i>86,900</i>	<i>86,900</i>	<i>86,900</i>



Table 4-62
Quantitative Impacts on Locatable Minerals

Locatable Minerals	Alternatives A, D, and E	Alternatives B and F	Alternative C
<i>Low likelihood of interest</i>	2,342,600	2,342,600	2,342,600
Total acres recommended for withdrawal from locatable mineral entry	0	8,372,700	11,421,100
<i>High likelihood of interest</i>	0	200,800	333,000
<i>Moderate likelihood of interest</i>	0	227,900	362,600
<i>Low likelihood of interest</i>	0	7,944,000	10,725,500
Total acres open to locatable mineral exploration or development	29,557,500	21,184,900	18,136,400
<i>High likelihood of interest</i>	1,421,500	1,220,700	1,088,500
<i>Moderate likelihood of interest</i>	1,252,500	1,024,600	889,900
<i>Low likelihood of interest</i>	26,883,500	18,939,600	16,158,000

Source: BLM 2013a

The management actions being considered in this LUPA could affect both existing and future mining claims. Exploration and development on mining claims would require that a notice be submitted to the BLM with a cumulative surface disturbance of five or fewer acres and a plan of operations for exploration and development greater than five acres, as outlined in 43 CFR Part 3809. On Forest Service-administered lands, a Notice of Intent is required for minor minerals activities on mining claims, or a Plan of Operations if the proposed operations “will likely cause a significant disturbance of surface resources(36 CFR 228A).

4.10.4 Alternative A

Impacts from Locatable Minerals Management

Under Alternative A, 2,466,100 acres, 8 percent, of locatable mineral estate in the decision area would remain withdrawn from location under the General Mining Act of 1872. This includes 36,600 acres where there is a high likelihood of future interest in locatable mineral development (3 percent of total acres with a high likelihood of interest in the decision area). Withdrawal of areas with a high likelihood of future interest in locatable mineral development has greater impacts than withdrawal of areas with moderate or low likelihood of interest because high likelihood areas are more likely to be sought after for development. Under current management, exploration and development would continue in PPMA and PGMA for new claims and for prior existing, valid mining claims. Impacts on existing and future mining claims are similar to those described under **Effects Common to All Alternatives**.

There are 231 plans of operations and notices in the locatable mineral decision area. Development of these operations would continue unrestricted under Alternative A.

No additional BMPs to protect GRSG are identified under this alternative.

4.10.5 Alternative B

Impacts from Locatable Minerals Management

Under Alternative B, 8,372,700 acres of federal locatable mineral estate in PPMA would be recommended for withdrawal from location under the General Mining Act of 1872. Combined with the additional 2,466,100 acres previously withdrawn under Alternative A, the availability of locatable minerals would be limited on 10,838,800 acres, or 34 percent of the federal locatable mineral estate (four times the acreage under Alternative A). Approximately 237,400 acres with a high likelihood for locatable mineral interest would be withdrawn or recommended for withdrawal under this alternative (16 percent of total acres with high likelihood of locatable mineral interest in the decision area). This represents six times more high likelihood acres withdrawn under Alternative B compared with Alternative A. The types of impacts are the same as those described under **Section 4.9.2** and **Section 4.9.3**. However, because more acres with a high likelihood of locatable mineral interest would be withdrawn or recommended for withdrawal under Alternative B, the magnitude of the impacts would increase compared with Alternative A.

Of the 231 plans of operations and notices within the locatable mineral decision area, 70 (30 percent) would be in PPMA under this alternative and therefore within the area to be petitioned for withdrawal. The types of impacts are the same as those described under **Nature and Type of Effects**.

Accessing and extracting locatable minerals of federal mineral estate would not be impacted by applying the BMPs listed in **Appendix C**; however, mining operations and practices could be affected if an operator were to agree to apply any of the BMPs on a project-specific basis.

4.10.6 Alternative C

Impacts from Locatable Minerals Management

Impacts under Alternative C are the same as those described under Alternative B, except that more acres would be recommended for withdrawal (11,421,100 acres of federal locatable mineral estate in the decision area). Combined with the 2,466,100 acres withdrawn, a total of 13,887,200 acres (43 percent) of the locatable mineral decision area would be impacted. This includes 369,000 acres (25 percent) of federal locatable mineral estate with a high likelihood of future interest in locatable mineral development. Management under Alternative B would impact 10 times the acres with a high likelihood of interest compared with Alternative A. The types of impacts are the same as those described under **Section 4.9.2** and **Section 4.9.3**; however, the magnitude of impacts under this alternative would increase since more acreage would be affected.

Of the 231 plans of operations and notices within the locatable mineral decision area, 98 (42 percent) would be in PPMA under this alternative and therefore within the area to be petitioned for withdrawal. The types of impacts are the same as those described under **Section 4.9.2**.



Impacts from applying the BMPs in **Appendix C** are the same as those described under Alternative B.

4.10.7 Alternative D

Impacts from Locatable Minerals Management

Impacts under Alternative D are the same as those described under Alternative A, except that additional measures to avoid or minimize adverse effects on GRSG and their habitat would be required for notices and plans of operations in all habitat types (117 notices and plans, or 51 percent of the notices and plans in the locatable mineral decision area). Impacts from these additional measures would be highly variable, depending on their extent. If these measures resulted in the potential for these mineral resources not to be accessed or extracted, an impact on the potential discovery, development, and use of those resources would occur because the availability of mineral resource would decrease.

Impacts from applying the BMPs in **Appendix C** are the same as those described under Alternative B.

4.10.8 Alternative E

Impacts from Locatable Minerals Management

Impacts under Alternative E are the same as those described under Alternative A.

4.10.9 Alternative F

Impacts from Locatable Minerals Management

Impacts under Alternative F are the same as those described under Alternative B.

4.11 Mineral Materials (Salables)

This section discusses impacts on mineral materials from proposed management actions of other resources and resource uses. Existing conditions concerning mineral materials are described in **Section 3.12**.

4.11.1 Methods and Assumptions

Analysis of impacts on mineral materials from this LUPA focuses on the impacts of conservation measures to protect GRSG. These impacts may be direct or indirect. For example, a direct impact on mineral materials would result from closing an area to mineral material disposal. An indirect impact would result from removing a road, which would change the economic feasibility of developing a site. Additional actions or conditions that might cause direct or indirect impacts on mineral materials are described under *Indicators*, below.

Indicators

Indicators of impacts on mineral materials are as follows:

- **The amount of land closed to mineral material disposal**
- **The amount of land subject to timing limitations**

- **The amount of land managed as ROW avoidance areas**
- **The amount of land managed as ROW exclusion areas**
- **Application of RDFs that can be placed on solid minerals**
- **Application of restoration requirements**

Where information is available, consideration is given to the potential for mineral materials on lands closed to mineral material disposal. For example, an indicator of an impact on mineral materials is if there were substantial closures to mineral material disposal in areas with high occurrence of mineral materials.

Assumptions

The analysis includes the following assumptions:

- New information may lead to changes in delineated GRSG habitat. New habitats or areas that are no longer habitat may be identified. This adjustment would typically result in small changes to areas, requiring the stipulations or management actions stated in this plan. Modifications to GRSG habitat would be updated in the existing data inventory through plan maintenance. In areas that are no longer habitat, the waiver/exception/modification process would be used to remove stipulations or management actions that were no longer needed.
- Management actions also apply to mineral materials activity on lands overlying federal mineral material estate, which includes federal mineral material estate underlying BLM- and Forest Service-administered lands, , and lands not administered by the BLM or Forest Service. There are 31,566,400 acres of federal mineral material estate within the decision area (29,636,500 acres of BLM- and Forest Service-administered surface with federal mineral material estate and 1,929,900 acres of surface with federal minerals not administered by the BLM or Forest Service). Federal mineral material estate refers to mineral estate where the federal government controls the mineral materials.
- Information on mineral material allocations is not available for 1,444,100 acres of federal oil and gas estate in the Butte and Dillon Field Offices in Montana (five percent of the federal mineral material decision area).
- As discussed in **Section 3.12**, demand for mineral materials in the planning area is expected to remain fairly steady. However, this demand is influenced by market factors that influence construction.
- Historical patterns of mineral material development in the planning area are used to assess the level of mineral material potential throughout the planning area. Areas with a high level of historical development are considered to have high potential for mineral materials.



4.11.2 Nature and Type of Effects

The predominant mining methods for mineral materials are small-scale surface mining and hand collection of building stone; therefore, any restrictions on surface-disturbing activities effectively close the subject areas to mineral material mining.

Closing areas to mineral material disposal and closing community pits would directly impact mineral materials by removing the potential for mineral resources in that area to be accessed and extracted. In addition, closed mineral material pits could be trespassed.

Closing acres to commercial mineral material development would prevent large-scale commercial operations, while allowing county and community operations, which are generally smaller scale.

Applying TLs could delay extraction of mineral material resources.

Managing areas as ROW avoidance or exclusion could decrease new construction, such as roads, thereby decreasing demand for mineral materials in those areas. This, in turn, could decrease the number of mineral material pits on federal mineral estate.

Implementing management for the following resources would have negligible or no impact on fluid minerals; therefore they are not discussed in detail: travel and transportation management, recreation, range management, solid minerals, fire and fuels management, habitat restoration and vegetation management, and special designations.

Table 4-63, Mineral Materials by Alternative, shows the number of acres open or closed to mineral materials disposal in the decision area under each alternative.

Table 4-63
Mineral Materials by Alternative

Occurrence	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Closed to disposal (acres)	1,442,300	9,605,800	12,708,800	4,004,700	1,422,300	9,605,800
Open to disposal (acres)	30,144,000	21,962,100	18,857,600	27,561,600	30,144,000	21,962,100

Source: BLM 2013a

A discussion of the impacts on mineral materials from management actions applicable to federal mineral material estate in the decision area under each alternative is below.

4.11.3 Alternative A

Impacts from Lands and Realty Management

Under Alternative A, 28,024,100 acres (93 percent) of BLM- and Forest Service-administered surface within the decision area, would continue to be open to ROW location. However, construction of new roads would likely decrease on the 2,147,300 acres (7 percent)

of BLM- and Forest Service-administered surface in the decision area. that would continue to be managed as ROW avoidance or exclusion under this alternative. Impacts are the same type as those described under **Section 4.10.2**. Impacts from this decrease in demand would be mitigated where new ROWs could be collocated within existing ROWs to satisfy valid existing rights.

Impacts from Mineral Materials Management

Approximately 30,144,000 acres (95 percent) of federal mineral material estate within the decision area would remain open to mineral material disposal under Alternative A. Approximately 1,442,300 acres (5 percent) of federal mineral material estate within the decision area would remain closed to mineral material disposal. Impacts of these closures would be the same type as those described under **Section 4.10.2**.

Management under Alternative A would continue to require reclamation of mineral material pits in accordance with developers' pit development plans.

4.11.4 Alternative B

Impacts from Lands and Realty Management

Under Alternative B, 7,717,800 acres (26 percent) of BLM- and Forest Service-administered surface in the decision area (including all PPMA) would be managed as ROW exclusion areas. However, because all PPMA would be closed to mineral material disposal under Alternative B, managing areas as ROW exclusion in PPMA would have no impact on demand for mineral materials in PPMA.

Approximately 2,036,600 acres (7 percent) of BLM- and Forest Service-administered surface in the decision area (including all PGMA) would be managed as ROW avoidance under Alternative B. Mineral materials beneath these areas would be impacted by the ROW avoidance area, as described under **Section 4.10.2**. Because five times more acres would be managed as ROW avoidance or exclusion under Alternative B compared with Alternative A, the magnitude of these impacts on the level of demand for mineral materials would increase.

Impacts from Mineral Materials Management

Under Alternative B, approximately 9,605,800 acres (30 percent) of federal mineral material estate in the decision area (including all PPMA) would be closed to mineral material disposal. The types of impacts from these closures are the same as those discussed under **Section 4.10.2**. Because seven times more acres of federal mineral material estate would be closed under Alternative B compared with Alternative A, the magnitude of these impacts would increase.

Management of mineral materials on federal mineral estate outside of PPMA would be the same as that under Alternative A.



4.11.5 Alternative C

Impacts from Lands and Realty Management

Under Alternative C, 9,975,300 acres (33 percent) of BLM- and Forest Service-administered surface within the decision area (including all BLM- and Forest Service-administered surface in GRSG habitat) would be managed as ROW exclusion areas. However, because all occupied habitat would be closed to mineral material disposal under Alternative C, managing areas as ROW exclusion in occupied habitat would have no impact on mineral materials.

Impacts from Mineral Materials Management

Under Alternative C, approximately 12,708,800 acres (40 percent) of federal mineral material estate in the decision area, including all GRSG habitat, would be closed to mineral material disposal. The types of impacts from these closures are the same as those discussed under **Section 4.10.2**. Because nine times more acres of federal mineral material estate with mineral material occurrence would be closed under Alternative C than under Alternative A, the magnitude of these impacts would increase.

4.11.6 Alternative D

Impacts from Lands and Realty

Like Alternative A, under Alternative D, 1,090,700 acres (4 percent) of BLM- and Forest Service-administered surface in the decision area would be managed as ROW exclusion areas. A total of 3,075,800 acres (10 percent, including all PMMA and PGMA, would be managed as ROW avoidance areas. Where these exclusion or avoidance areas overlapped with areas open to mineral material disposal, impacts on the mineral materials program would occur as described under **Section 4.10.2**. Because three times more acres would be managed as ROW avoidance under Alternative D than under Alternative A, the magnitude of impacts would increase.

Impacts from Mineral Materials Management

Under Alternative D, areas within 1.86 miles (3 km) of occupied leks would be closed to mineral materials disposal. These closures, in addition to existing closures, would result in approximately 4,004,700 acres (13 percent) of federal mineral material estate in the decision area, being closed to mineral material disposal. The types of impacts from these closures are the same as those discussed under **Section 4.10.2**. Because three times more acres of federal mineral material estate with mineral material occurrence would be closed under Alternative C than under Alternative A, the magnitude of these impacts would increase.

All other federal mineral material estate in GRSG habitat would be subject to TLs, TLs would also apply to the 335 existing community pits within PPMA and PMMA (74 percent) of existing community pits in GRSG habitat. All of these TLs would impact mineral materials as described under **Section 4.10.2**. Because TLs would not be applied under Alternative A, impacts on mineral materials would increase under Alternative D.

4.11.7 Alternative E

Impacts from Lands and Realty Management

Like Alternative A, under Alternative E, 1,060,300 acres (4 percent) of BLM- and Forest Service-administered surface in the decision area would be managed as ROW exclusion areas. A total of 6,625,100 acres (22 percent), including all core areas and important areas not already managed as ROW exclusion areas, would be managed as ROW avoidance areas. Where these exclusion or avoidance areas overlapped with areas open to mineral materials disposal, impacts on the mineral materials program would occur as described under **Section 4.10.2**. Because six times more acres would be managed as ROW avoidance under Alternative E than under Alternative A, the magnitude of impacts would increase. Impacts would be mitigated where exemptions for ROW development subject to certain conditions were allowed.

Impacts from Mineral Materials Management

Under Alternative E, mineral materials management would differ between portions of the decision area in Idaho and Montana and portions in Utah.

Management of mineral materials within Idaho and Southwestern Montana would be the same as that under Alternative A with the same impacts.

Within Utah, mineral material operations within PPMA would be subject to TLs and other restrictions, which would limit mineral material development, as described under **Section 4.10.2**.

Allocations in the mineral material decision area would be the same as those under Alternative A. Impacts on mineral materials would increase compared to Alternative A in Utah due to the restrictions that would be placed on mineral material activities there.

4.11.8 Alternative F

Impacts from Lands and Realty

Like Alternative C, under Alternative F, 9,975,300 acres (33 percent) of BLM- and Forest Service-administered surface within the decision area (including all BLM- and Forest Service-administered surface in GRSG habitat) would be managed as ROW exclusion areas. However, because all PPMA would be closed to mineral materials disposal under Alternative F, managing areas as ROW exclusion in PPMA would have no impact on mineral materials. Areas outside PPMA that were open to mineral material disposal would be impacted by ROW exclusion areas as described under **Section 4.10.2**. Because seven times more acres would be managed as ROW exclusion than under Alternative A, impacts would increase under Alternative F.

Impacts from Mineral Materials Management

Mineral materials management under Alternative F would be the same as that under Alternative B with the same impacts.



4.12 Nonenergy Leasable Minerals

This section discusses impacts on nonenergy solid leasable minerals from proposed management actions for resources and resource uses. Specifically, this section describes impacts on phosphate, the notable nonenergy leasable mineral within the planning area. Existing conditions concerning phosphate are described in **Section 3.12**.

4.12.1 Methods and Assumptions

Analysis of impacts on nonenergy solid leasable minerals from this LUPA focuses on the impacts of conservation measures to protect GRSG. These impacts may be direct or indirect. For example, a direct impact on nonenergy solid leasable minerals would result from closing an area to leasing. An indirect impact would result from removing a road, which would change the economic feasibility of developing a site. Additional actions or conditions that might cause direct or indirect impacts on nonenergy solid leasable minerals are described under *Indicators*, below.

Indicators

Indicators of impacts on nonenergy solid leasable minerals are as follows:

- The amount of land closed to nonenergy solid mineral leasing
- The restrictions on timing placed on nonenergy solid mineral leasing
- Application of RDFs that can be placed on solid minerals

Where information is available, consideration is given to the potential for nonenergy solid leasable minerals on lands closed to leasing. For example, an indicator of an impact on nonenergy solid leasable minerals is if there were substantial closures to nonenergy solid mineral leasing in areas with high occurrence of nonenergy solid minerals.

Assumptions

The analysis includes the following assumptions:

- New information may lead to changes in delineated GRSG habitat. New habitats or areas that are no longer habitat may be identified. This adjustment would typically result in small changes to areas, requiring the stipulations or management actions stated in this plan. Modifications to GRSG habitat would be updated in the data inventory through plan maintenance. In areas that are no longer habitat, the waiver/exception/modification process would be used to remove stipulations or management actions that were no longer needed.
- Management actions and conservation measures also apply to nonenergy solid leasable mineral activity on lands overlying federal nonenergy solid leasable mineral estate. This includes federal nonenergy solid leasable mineral estate underlying BLM-administered, National Forest System, and lands not administered by the BLM or Forest Service. There are 31,566,400 acres of federal nonenergy solid leasable mineral estate within the decision area (29,636,500 acres

of BLM- and Forest Service-administered surface with federal nonenergy solid leasable minerals and 1,929,900 acres of surface with federal minerals not administered by the BLM or Forest Service). Federal nonenergy solid leasable mineral material estate refers to mineral estate where the federal government controls the nonenergy solid leasable minerals.

- Information on nonenergy solid leasable mineral allocations is not available for 1,444,100 acres of federal nonenergy solid leasable mineral estate in the Butte and Dillon Field Offices in Montana (five percent of the federal mineral material decision area).

As discussed in **Section 3.12**, significant phosphate resources exist in the Pocatello Field Office within the planning area. There are ten active phosphate leases within GRSG habitat in this area; however, no development on these leases is planned for the next 5 to 10 years.

4.12.2 Nature and Type of Effects

Closing an area to nonenergy solid mineral leasing would directly impact nonenergy solid leasable minerals by removing the potential for minerals resources in that area to be accessed and extracted. Mining operations may move to nearby private lands, thereby reducing the number of operations on federal mineral estate. In areas open to leasing, applying stipulations (e.g., NSOs, CSUs and TLs) would restrict the potential for mineral resources to be developed or extracted. Surface-disturbing activities could be prohibited or shifted up to 650 feet (200 meters), additional protective measures could be required, and extraction delays could occur.

Implementing management for the following resources would have negligible or no impact on nonenergy solid leasable minerals; therefore they are not discussed in detail: GRSG, lands and realty, habitat restoration and vegetation, invasive species, wildland fire, locatable minerals, salable minerals, fluid minerals, recreation and visitor services, livestock grazing, and special designations.

4.12.3 Alternative A

Impacts from Nonenergy Solid Leasable Minerals Management

Under Alternative A, 19,938,500 acres or 63 percent of federal nonenergy solid leasable mineral estate in the nonenergy solid leasable mineral decision area, would remain open to leasing consideration, and 3,025,860 acres or 10 percent, would remain closed to prospecting and leasing. Another 3,111,520 acres (10 percent) would remain subject to NSO stipulations. These closures and NSO stipulations would have the same types of impacts as described under **Section 4.11.2**.

Table 4-64, Nonenergy Solid Mineral Leasing Categories in the Decision Area, Alternatives A and E, breaks down the acres closed or subject to stipulations within the nonenergy solid leasable mineral decision area by whether they are within Known Phosphate Leasing Areas (KPLAs). Less than one percent of the acres closed to leasing would be within KPLAs.



Table 4-64
Nonenergy Solid Mineral Leasing Categories in the Decision Area, Alternatives A and E

	Closed to Leasing (acres)	Open Subject to NSO Stipulations (acres)	Open Subject to CSU Stipulations (acres)	Open Subject to TL Stipulations (acres)	Open Subject to Standard Terms and Conditions (acres)
Decision Area	3,025,860	3,111,520	4,043,000	1,527,800	19,938,500
<i>Leased</i>	<i>8,760</i>	<i>1,020</i>	<i>0</i>	<i>0</i>	<i>35,300</i>
<i>Unleased</i>	<i>3,017,100</i>	<i>3,110,500</i>	<i>4,043,000</i>	<i>1,527,800</i>	<i>19,903,200</i>
KPLAs	3,720	620	0	0	14,700
<i>Leased</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>Unleased</i>	<i>3,720</i>	<i>620</i>	<i>0</i>	<i>0</i>	<i>14,700</i>

Source: BLM 2013a

Under Alternative A, 3,720 acres (20 percent) of unleased federal mineral estate within KPLAs in the nonenergy solid leasable mineral decision area would remain closed to nonenergy leasable mineral prospecting and leasing. The impacts of these closures would be the same type as those described under **Section 4.11.2**. The remaining 15,320 acres (80 percent) of federal mineral estate within KPLAs in the nonenergy solid leasable mineral decision area would remain open to nonenergy leasable mineral prospecting and leasing. However, 620 acres (3 percent) of unleased acres within KPLAs would remain subject to NSO stipulations. Impacts of these stipulations would be the same type as those described under **Section 4.11.2**.

Existing federal nonenergy leasable mineral leases in the decision area would continue to be subject to any stipulations or BMPs contained in those leases. Application of BMPs could alter how mineral resources are accessed and extracted and result in the use of different technology than would otherwise have been used.

4.12.5 Alternative B

Impacts from Nonenergy Solid Leasable Minerals Management

Under Alternative B, 10,429,290 acres, or 33 percent of the federal nonenergy solid leasable mineral estate decision area (including all federal nonenergy solid leasable mineral estate in PPMA), would be closed to prospecting and leasing. Management under this alternative would close three times more federal nonenergy solid leasable mineral estate to nonenergy leasable mineral prospecting and leasing than management under Alternative A. New leases to expand existing mines for phosphate would not be permitted in areas managed as closed. Approximately 1,110,200 acres, or 4 percent of federal nonenergy solid leasable mineral estate in the decision area, would be open to leasing consideration subject to NSO stipulations. Closing areas to nonenergy mineral prospecting and leasing and applying NSO stipulations to other areas would result in the same type of impacts as described under **Section 4.11.2**. Approximately 19,160,600 acres (61 percent) of federal nonenergy leasable mineral estate in the decision area would remain open subject to standard terms and conditions.

Table 4-65, Nonenergy Solid Mineral Leasing Categories in the Decision Area, Alternative B, breaks down the acres closed or subject to stipulations within the decision area by they are within KPLAs. Less than one percent of the acres closed to leasing would be within KPLAs.

Table 4-65
Nonenergy Solid Mineral Leasing Categories in the Decision Area, Alternative B

	Closed to Leasing (acres)	Open Subject to NSO Stipulations (acres)	Open Subject to CSU Stipulations (acres)	Open Subject to TL Stipulations (acres)	Open Subject to Standard Terms and Conditions (acres)
Decision Area	10,429,290	1,110,200	329,800	546,400	19,160,600
<i>Leased</i>	<i>8,890</i>	<i>1,000</i>	<i>0</i>	<i>0</i>	<i>35,200</i>
<i>Unleased</i>	<i>10,420,400</i>	<i>1,109,200</i>	<i>329,800</i>	<i>546,400</i>	<i>19,125,400</i>
KPLAs	3,900	580	0	0	14,500
<i>Leased</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>Unleased</i>	<i>3,900</i>	<i>580</i>	<i>0</i>	<i>0</i>	<i>14,500</i>

Source: BLM 2013a

Under Alternative B, 3,900 acres (21 percent) of unleased federal mineral estate within KPLAs in the nonenergy solid leasable mineral decision area would be closed to nonenergy leasable mineral prospecting and leasing—a 5-percent increase compared with Alternative A. The impacts of these closures would be the same type as those described under **Section 4.11.2**. The remaining 15,080 acres (79 percent) of unleased federal mineral estate within KPLAs in the nonenergy solid leasable mineral decision area would be open to nonenergy leasable mineral prospecting and leasing. However, 580 acres (3 percent) of unleased acres within KPLAs would be subject to NSO stipulations. Impacts of these stipulations would be the same type as those described under **Section 4.11.2**. Because the number of unleased acres within KPLAs that are closed or subject to NSO stipulations would increase compared with Alternative A, impacts on nonenergy solid leasable minerals would increase.

Existing federal nonenergy leasable mineral leases in the 7,231,700 acres of federal nonenergy solid leasable mineral estate in PPMA would be subject to RDFs. This would limit surface disturbance, vehicle use, siting, and design of mineral development operations, in addition to imposing reclamation requirements. Application of RDFs would have the types of impacts described under **Section 4.11.2**. Because these RDFs would not be applied under Alternative A, impacts would increase under Alternative B.

4.12.6 Alternative C

Impacts from Nonenergy Solid Leasable Minerals Management

Impacts under Alternative C are the same as those described under Alternative B, except that more acres would be affected by closures (13,978,100 acres, or 44 percent of the



nonenergy leasables decision area). As a result, the magnitude of impacts under this alternative would increase.

Table 4-66, Nonenergy Solid Mineral Leasing Categories in the Decision Area, Alternative C, breaks down the acres closed or subject to stipulations within the decision area by they are within KPLAs. Less than one percent of the acres closed to leasing would be within KPLAs.

Table 4-66
Nonenergy Solid Mineral Leasing Categories in the Decision Area, Alternative C

	Closed to Leasing (acres)	Open Subject to NSO Stipulations (acres)	Open Subject to CSU Stipulations (acres)	Open Subject to TL Stipulations (acres)	Open Subject to Standard Terms and Conditions (acres)
Decision Area	13,978,100	1,808,700	3,644,000	309,400	11,605,600
<i>Leased</i>	<i>10,600</i>	<i>900</i>	<i>0</i>	<i>0</i>	<i>33,600</i>
<i>Unleased</i>	<i>13,967,500</i>	<i>1,807,800</i>	<i>3,644,000</i>	<i>309,400</i>	<i>11,572,000</i>
KPLAs	4,400	400	0	0	14,200
<i>Leased</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>Unleased</i>	<i>4,400</i>	<i>400</i>	<i>0</i>	<i>0</i>	<i>14,200</i>

Source: BLM 2013a

Under Alternative C, 4,400 acres (23 percent) of unleased federal mineral estate within KPLAs in the nonenergy solid leasable mineral decision area would be closed to nonenergy leasable mineral prospecting and leasing—an 18-percent increase compared with Alternative A. The impacts of these closures would be the same type as those described under **Section 4.11.2**. Because the number of unleased acres within KPLAs that are closed would increase compared with Alternative A, impacts on nonenergy solid leasable minerals would increase.

4.12.7 Alternative D

Impacts from Nonenergy Solid Leasable Minerals Management

Under Alternative D, 10,882,600 acres, or 34 percent of the federal nonenergy leasable mineral estate decision area (including all federal nonenergy leasable mineral estate in PPMA and PMMA), would be closed to prospecting and leasing—four times as many acres closed compared with Alternative A. Fringe leases and modifications to existing leases would be allowed to satisfy valid existing rights. Impacts of this closure would be similar to those described under **Section 4.11.2** except that impacts would increase compared with Alternative A. Approximately 2,411,000 acres, or 8 percent of federal nonenergy solid leasable mineral estate in the decision area, would be open to leasing consideration subject to NSO stipulations. Closing areas to nonenergy mineral prospecting and leasing and applying NSO stipulations to other areas would result in the same type of impacts as described under **Section 4.11.2**; however, because more acres would be closed under Alternative D, impacts would increase compared with Alternative A. Approximately 11,542,200 acres (37 percent)

of federal nonenergy leasable mineral estate in the decision area would remain open subject to standard terms and conditions.

CSUs and seasonal and daily TLs would be applied to all lands available for leasing (including 2,911,300 acres of PGMA). Additionally, TLs would be applied to the ten federal phosphate leases within GRSG habitat, once exploration activities or initial mine development is proposed. Impacts from applying CSUs and TLs are the same as those described under **Section 4.11.2**.

Table 4-67, Nonenergy Solid Mineral Leasing Categories in the Decision Area, Alternative D, breaks down the acres closed or subject to stipulations within the decision area by they are within KPLAs. Less than one percent of the acres closed to leasing would be within KPLAs.

Table 4-67
Nonenergy Solid Mineral Leasing Categories in the Decision Area, Alternative D

	Closed to Leasing (acres)	Open Subject to NSO Stipulations (acres)	Open Subject to CSU Stipulations (acres)	Open Subject to TL Stipulations (acres)	Open Subject to Standard Terms and Conditions (acres)
Decision Area	10,882,590	2,410,980	6,260,200	478,800	11,542,200
<i>Leased</i>	<i>9,190</i>	<i>1,480</i>	<i>2,800</i>	<i>0</i>	<i>31,600</i>
<i>Unleased</i>	<i>10,873,400</i>	<i>2,409,500</i>	<i>6,257,400</i>	<i>478,800</i>	<i>11,510,600</i>
KPLAs	3,900	630	830	0	13,700
<i>Leased</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>Unleased</i>	<i>3,900</i>	<i>630</i>	<i>830</i>	<i>0</i>	<i>13,700</i>

Source: BLM 2013a

Under Alternative D, 3,900 acres (20 percent) of unleased federal mineral estate within KPLAs in the nonenergy solid leasable mineral decision area would be closed to nonenergy leasable mineral prospecting and leasing under Alternative D. The impacts of these closures would be the same type as those described under **Section 4.11.2**. The remaining 15,160 acres (80 percent) of unleased federal mineral estate within KPLAs in the nonenergy solid leasable mineral decision area would be open to nonenergy leasable mineral prospecting and leasing. However, 630 acres (3 percent) of unleased acres within KPLAs would be subject to NSO stipulations. Impacts of these stipulations would be the same type as those described under **Section 4.11.2**. Because the number of unleased acres within KPLAs that are closed or subject to NSO stipulations would slightly increase compared with Alternative A, impacts on nonenergy solid leasable minerals would increase.

Applying BMPs as COAs on any new mine plan and requiring restoration of habitat or off-site mitigation in areas where on-site restoration is not feasible could alter how mineral resources are accessed and extracted. It also could result in the use of different technology than would otherwise have been used.



4.12.8 Alternative E

Impacts from Nonenergy Solid Leasable Minerals Management

Impacts from nonenergy solid mineral leasing allocations under Alternative E would be the same as those impacts described under Alternative A (see Table 4-64, Nonenergy Solid Mineral Leasing Categories in the Decision Area, Alternatives A and E). Approximately 3,025,900 acres, or 10 percent of the federal nonenergy solid leasable mineral estate in the decision area would be closed to prospecting and leasing. Closing areas to nonenergy mineral prospecting and leasing would result in the same type of impacts as described under **Section 4.11.2**. Lands open to leasing would be subject to several stipulations, which include prohibiting permanent structures within occupied leks, prohibiting tall structures within one mile (1.6 km) of leks, restrictions on noise disturbances, and various TLs specific to protecting leks. Stipulations would restrict the ability of mineral resources to be developed or extracted and would increase impacts on nonenergy solid leasable minerals compared with Alternative A .

4.12.9 Alternative F

Impacts from Nonenergy Solid Leasable Minerals Management

Management under Alternative F would be similar to that under Alternative B except that the BLM would close an additional 29,700 acres in PRMAs under Alternative F. However, because no KPLAs are in PRMAs, impacts under Alternative F would be the same as those described under Alternative B.

4.13 Special Designations

4.13.1 ACECs and ZAs

This section discusses impacts on ACECs and ZAs from proposed management actions of other resources and resource uses. Existing conditions concerning ACECs are described in **Section 3.13**, Special Designations. See **Appendix H** for the evaluation of relevant and important values for proposed ACECs. There are no existing Forest Service ZAs in the sub-region. As stated previously, it is anticipated that GRSG management would have beneficial or negligible effects on other special designations areas (e.g., National Historic Trails, Wild and Scenic Rivers, Wilderness Areas, Wilderness Study Areas, National Monuments, and National Conservation Areas). The BLM manual for each NLCS unit type will be adhered to during any site-specific analysis, and the BLM would manage them to safeguard the reasons for which they were designated.

4.13.2 Methods and Assumptions

Direct impacts on ACECs are considered to be those that either impair or enhance the relevant and important values for which the ACEC was proposed for designation. As such, this analysis focuses on relevance and importance criteria for each potential ACEC. There are no relevance and importance criteria for Forest Service ZAs. It also focuses on impacts on these values from either the special management derived from ACEC or ZA designation or, under alternatives where an ACEC or ZA is not proposed for designation, the management actions for other resources. All impacts discussed are direct, though some may not occur immediately after implementation of management actions.

Indicators

Impacts on ACECs would occur from management actions that protect or impair relevant and important ACEC values, including “important historic, cultural, or scenic values, fish and wildlife resources or other natural systems or processes” (BLM Manual 1613 – Areas of Critical Environmental Concern). As such, indicators of impacts are allocations for surface-disturbing activities within existing or potential ACECs that could affect the relevant and important values for which the ACEC was designated.

Assumptions

The analysis includes the following assumptions:

- Management of existing ACECs was determined in the applicable LUPs to be adequate to support the relevant and important values at the time of their designation. Impacts on these ACECs are not further discussed because the BLM would continue to manage these ACECs to protect their relevant and important values. Management to protect GRSG under the various alternatives could provide additional protections for existing ACECs and, at a minimum, would provide complementary management.
- Although management actions for most resources and resource uses have application throughout the decision area, ACEC and ZA management prescriptions apply only to those lands within each specific ACEC or ZA.
- Permitted activities would not be allowed to impair the relevant and important values for which the ACECs are designated. The exception is locatable minerals; until withdrawn from mineral entry, a mining claim can be filed, and subsequent mining activities could have an impact. However, measures would have to be identified in a mine plan to mitigate unnecessary and undue degradation.
- ACEC designation provides protection and focused management of relevant values beyond that provided through general management of the relevant and important values elsewhere in the decision area.
- Any designated ACEC that falls within a WSA would be managed according to BLM Manual 6330, Management of Wilderness Study Areas, unless the ACEC management is more restrictive. Because activities within WSAs must meet the nonimpairment criterion, which generally restricts new surface disturbance, a WSA would generally protect relevant and important values. Also, it would have a beneficial effect on overlapping designated and undesignated ACECs. If Congress were to release a WSA from further consideration, the special management in designated ACECs would be designed to protect and enhance the relevant and important values.

4.13.3 Nature and Type of Effects

Special status species management would prevent degradation of, and could improve, relevant and important values where an ACEC is designated to protect such values. New ACECs designated under Alternatives C and F would protect GRSG. Refer to **Section 4.2**,



Special Status Species – Greater Sage-Grouse, for a discussion of impacts from these ACECs on GRSG habitat. None of the existing ACECs in the planning area are designated to protect GRSG but would experience indirect protections from management actions in other resource programs aimed at GRSG conservation.

In general, management actions that protect resources—such as surface-disturbance restrictions, management for desired habitats, travel restrictions and closures, and recreation restrictions—would help maintain and improve the important and relevant values within ACECs. Management actions that create the potential for resource degradation—such as mineral development, livestock grazing, and infrastructure development—could impact the relevant and important values for which an ACEC is designated. Recreation and travel within ACECs could impact their values. Limiting motorized travel to existing routes and trails would reduce surface disturbance and potentially reduce disturbance to the values for which the ACECs were designated.

Managing ACECs as ROW exclusion or avoidance areas would protect relevant and important values by reducing (for avoidance areas) or eliminating (for exclusion areas) impacts from development. These impacts would require a ROW permit, including utilities, access roads, and renewable energy projects. Impacts from ROW development on ACECs include compaction and erosion.

Energy and mineral development could impact ACEC values by increasing soil erosion potential and removing or disrupting unique vegetation. Where GRSG habitat exists, energy and mineral development could degrade and fragment habitat. Construction, operation, and maintenance could disturb GRSG populations. Closing ACECs to fluid minerals leasing would help protect relevant and important values by eliminating the surface disturbance associated with such development.

Depending on their extent, location, and severity, wildfires could cause short- and long-term damage to ACEC values. Emergency stabilization and restoration would be applied to minimize impacts where special values are at risk. If these techniques are successful, wildfires could also cause long-term improvement in ACEC values by maintaining natural vegetation ecosystem cycles.

Livestock grazing could impact ACEC values by increasing soil erosion potential and reducing understory plant species, such as juniper and grasses. Closing ACECs to livestock grazing would help protect relevant and important values by eliminating soil and vegetation disturbance associated with grazing, but it could also increase the risk of fire due to increased fuel loads.

Management to protect GRSG under the various alternatives would likely provide additional protections for existing ACECs. At a minimum, it would provide complementary management. Impacts would not vary greatly between the alternatives.

Implementing management for the following resource would have negligible or no impact on ACECs; therefore it is not discussed in detail: mineral split-estate.

Impacts Common to All Alternatives

Impacts on the relevant and important values of ACECs would mainly be from surface-disturbing activities that cause direct damage to the values, introduce modifications to the landscape that affect the area's scenic quality or historical or cultural context, or that result in erosion, sedimentation, or increased runoff. All of the action alternatives would generally result in greater restrictions, compared to the continuation of existing management under Alternative A. Adopting more restrictive management of surface-disturbing activities under the action alternatives would be complementary to the protection of the relevant and important values of the existing ACECs. Therefore, in general, the action alternatives would enhance the relevant and important values of the existing ACECs to a greater extent than Alternative A.

Table 4-68, Comparison of ACEC-Affecting Management Actions by Alternative provides a quantitative overview of how the ACEC-affecting management actions under an applicable resource program would vary across alternatives.

Table 4-69, Acres of Proposed ACECs within the Planning Area by Habitat Type and Alternative displays the acres of the proposed ACECs within each habitat type under the different alternatives. Different management would apply to the different areas, as described in **Chapter 2**, impacts of which are discussed in **Section 4.2**, Special Status Species – Greater Sage-Grouse, and **Section 4.3**, Vegetation (Including Noxious Weeds; Riparian and Wetlands).

Table 4-68
Comparison of ACEC-Affecting Management Actions by Alternative

Management Action	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<i>ACEC Acres Overlain with Management Actions</i>						
ROW Exclusion	1,080	7,496,900	463,800	670	1,091,800	1,393,900
BLM	1,080	7,496,900	463,800	670	1,091,800	1,393,900
Forest Service	N/A	N/A	N/A	N/A	N/A	N/A
ROW Avoidance	17,100	1,819,700	0	469,200	6,698,200	30
BLM	17,100	1,819,700	0	469,200	6,698,200	30
Forest Service	N/A	N/A	N/A	N/A	N/A	N/A
Open to Livestock Grazing	440,100	396,800	0	439,500	403,300	10,562,700
BLM	440,100	396,800	0	439,500	403,300	9,719,500
Forest Service	N/A	N/A	N/A	N/A	N/A	N/A
Closed to Livestock Grazing	29,900	29,900	9,260,100	29,900	29,900	41,000
BLM	29,900	29,900	9,260,100	29,900	29,900	41,000
Forest Service	N/A	N/A	N/A	N/A	N/A	N/A
Closed to Oil and Gas Leasing	322,900	466,400	3,580,900	398,300	318,300	7,281,600
BLM	322,900	466,400	3,580,900	398,300	318,300	7,260,300
Forest Service	N/A	N/A	N/A	N/A	N/A	N/A



Table 4-68
Comparison of ACEC-Affecting Management Actions by Alternative

Management Action	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
NSO	162,300	235,300	50	318,600	904,300	167,200
BLM	162,300	235,300	0	318,600	904,300	25,600
Forest Service	N/A	N/A	N/A	N/A	N/A	N/A
CSU	6,360	1,380	4,200	115,000	1,730	342,880
BLM	6,360	1,380	4,200	115,000	1,730	1,380
Forest Service	N/A	N/A	N/A	N/A	N/A	N/A
TL	105,800	165,800	0	1,514,600	767,000	13,600
BLM	105,800	165,800	0	1,514,600	767,000	13,600
Forest Service	N/A	N/A	N/A	N/A	N/A	N/A
Petition for Withdrawal from Locatable/Leasable Mineral Entry	30,200	30,200	106,000	30,200	30,500	412,200
BLM	30,200	30,200	105,100	30,200	30,500	388,900
Forest Service	N/A	N/A	N/A	N/A	N/A	N/A

Source: BLM 2013a; Forest Service 2013a

Table 4-69
Acres of Proposed ACECs within the Planning Area by Habitat Type and Alternative

Habitat	Alternative C	Alternative F
PPMA (acres)	3,602,800	7,258,400
PGMA (acres) ¹	N/A	121,800
PRMA (acres) ¹	N/A	3,460

Source: BLM 2013a

¹There is no PGMA or PRMA that would be designated under Alternative C.

4.13.4 Alternative A

Under Alternative A, the BLM would continue managing the 59 existing Idaho and Montana ACECs containing 426,700 acres of occupied GRSG habitat to protect the identified relevant and important values. Current management would continue protecting those values. Sagebrush habitat is not identified as a relevant and important value in any of the existing ACECs.

4.13.5 Alternative B

No new ACECs would be designated. However, management protecting the 426,700 acres of occupied GRSG habitat within existing ACECs may provide indirect protection to the relevant and important values for which these ACECs were designated. Management actions that could impact ACECs include the management of areas as ROW avoidance and ROW

exclusion, fire management, mineral development, travel management, and the management of areas as open or closed to livestock grazing. The ways in which these management actions could impact ACECs is described in **Nature and Types of Effects**.

4.13.6 Alternative C

Under Alternative C, 39 new BLM ACECs encompassing approximately 3.6 million acres of occupied GRSG habitat would be designated as sagebrush reserves for the relevant and important value of GRSG. Refer to **Section 4.34**, Special Status Species – Greater Sage-Grouse, for a discussion of impacts on GRSG habitat.

4.13.7 Alternative D

No new ACECs would be designated. Impacts are the same as those described under Alternative B.

4.13.8 Alternative E

No new ACECs would be designated. Impacts are the same as those described under Alternative B.

4.13.9 Alternative F

Under Alternative F, 17 or 18 new BLM ACECs and 12 new Forest Service GRSG ZAs encompassing up to 7.8 million acres of occupied GRSG habitat would be designated as sagebrush reserves for the relevant and important value of GRSG. Refer to **Section 4.34**, Special Status Species – Greater Sage-Grouse, for a discussion of impacts on GRSG habitat.

4.14 Lands with Wilderness Characteristics and Roadless Areas

This section discusses impacts on lands with wilderness characteristics from proposed management actions of other resources and resource uses. Existing conditions are described in **Section 3.20**, Lands with Wilderness Characteristics. Wilderness characteristics considered in this analysis are roadless areas of sufficient size, naturalness, and outstanding opportunities for solitude or a primitive and unconfined type of recreation and supplemental values. In the planning area, 452,300 acres on BLM-administered lands have been found to have wilderness characteristics. None of the 452,300 acres with wilderness characteristics specifically managed to protect those characteristics; however, management addressing other programs such as visual and cultural resources or recreation management may limit impacts on those characteristics. There are approximately 1,695,900 acres of Roadless Areas on Forest Service-administered lands. All Roadless Areas experience some level of protection. Restrictions on activities such as road construction, tree cutting, and mineral development are applied to Roadless Areas in various degrees based on the management classification of the Roadless Area (36 CFR 294).



4.14.1 Methods and Assumptions

Indicators

Indicators of impacts on lands with wilderness characteristics are the management actions and allowable uses that would either protect or degrade the inventoried characteristics to a level at which the value of one or more wilderness characteristic would no longer be present within the specific area. The inventoried wilderness characteristics are roadless areas of sufficient size, naturalness, outstanding opportunities for solitude or a primitive and unconfined type of recreation, and supplemental values, as described in **Section 3.20**, Wilderness Characteristics. Roadless Areas already experience some protections from Forest Service management, however, management actions that restrict uses in order to protect the GRSG would provide additional protections to Roadless Areas.

Assumptions

The analysis includes the following assumption:

- Some inventoried lands with wilderness characteristics have not yet been assessed in a LUP revision; therefore, no decisions have been made about whether to protect their wilderness characteristics. In this analysis, these lands with wilderness characteristics are treated like their wilderness characteristics are not protected to the same degree that congressionally designated wilderness areas would be protected and are discussed in this analysis. Lands with wilderness characteristics that are not managed only to exclusively protect those characteristics will simply be referred to as lands with wilderness characteristics throughout the remainder of the analysis in this section.

4.14.2 Nature and Type of Effects

Wilderness characteristics are primarily influenced by actions that impact the undeveloped nature of the area or activities that increase the sights and sounds of other visitors. Generally, actions that create surface disturbance degrade the natural characteristics of lands with wilderness characteristics, as well as the setting for experiences of solitude and primitive recreation. In addition, restrictions on dispersed recreation (e.g., prohibited campfires and camping permitted only in designated sites) diminish the opportunities for unconfined recreation.

Management actions that could impact an area's natural appearance are the presence or absence of roads and trails, use of motorized vehicles along those roads and trails, fences and other improvements, nature and extent of landscape modifications, or other actions that result in or preclude surface-disturbing activities. All of these activities affect the presence or absence of human activity and, therefore, could affect an area's natural appearance. Prohibiting surface-disturbing activities and new developments within lands with wilderness characteristics would protect naturalness.

Two other wilderness characteristics—outstanding opportunities for solitude and primitive unconfined types of recreation—are related to the human experience in an area. Visitors can have outstanding opportunities for solitude or for primitive unconfined recreation when the

sights, sounds, and evidence of other people are rare or infrequent; where visitors can be isolated, alone, or secluded from others; where the area is accessed by nonmotorized nonmechanized means; and where there are no or only minimally developed recreation facilities. High concentrations of recreation users (large group sizes or frequent group encounters) would decrease outstanding opportunities for solitude. Limiting visitor use only as necessary to prevent substantial degradation to wilderness characteristics (i.e., naturalness and opportunities for solitude) would protect opportunities for unconfined recreation.

While vegetation treatments are implemented, both naturalness and solitude experienced by recreationists could be reduced in the short term. After the treatment is over, solitude would be restored. Over the long term, naturalness would likely be enhanced by restoring natural vegetation structures and patterns.

There could be indirect impacts from management of other resources that would enhance wilderness characteristics. Stipulations associated with special status species could indirectly improve the naturalness of lands with wilderness characteristics and help protect those characteristics. Management actions that protect resources would impact lands with wilderness characteristics by preserving or enhancing naturalness, as well as opportunities for solitude and primitive recreation.

Managing for wildfire could impact lands with wilderness characteristics. In areas where suppression is a priority, there is the potential for vegetation modification to prevent the spread of fires, potentially reducing the naturalness of appearance. Fire suppression, prescribed burns, and firebreaks could all have short-term impacts on wilderness characteristics by disturbing naturalness.

Allowing any type of energy or mineral development, such as that for fluid, coal, nonenergy solid, locatable, and salable minerals, as well as renewable energy, would result in surface disturbance that would diminish the area's natural characteristic. Any new roads authorized for access to the development area could eliminate wilderness characteristics of the entire unit if the road were to bisect the unit so that it would no longer be considered a roadless area of adequate size. In addition, regular access to the lease area or mine site by developers would reduce the opportunities for solitude.

A significant increase in motorized and mechanized travel on designated routes would impact wilderness characteristics. By increasing sights and sounds of other people, opportunities for solitude would be reduced. Motorized and mechanized access would also reduce opportunities for primitive recreation. The existence of motorized and mechanized trails could reduce the natural appearance in the vicinity of the trails. Effects would be localized and might not be experienced in the unit as a whole.

Prohibiting motorized and mechanized use on lands with wilderness characteristics would protect wilderness characteristics by restricting activities that could impact natural appearance and opportunities for solitude and primitive and unconfined recreation. Exceptions to exclusions on motorized and mechanized vehicles could result in a short-term detraction from the natural character of the areas. These impacts would be uncommon and



of short duration if they were to occur. On a more regular basis, motorized and mechanized use by established livestock grazing permittees would impact opportunities for solitude and naturalness of appearance.

Impacts on lands with wilderness characteristics are possible from livestock grazing, particularly from new developments in these areas (e.g., water developments and fences), which could lessen the naturalness of appearance or limit unconfined recreation. Existing range improvements used for grazing, such as fences, stock trails, springs, and stock ponds, would continue to be maintained. Structures could diminish the naturalness characteristic of lands with wilderness characteristics. Maintenance of range improvements could result in short-term impacts on solitude and naturalness.

Where lands with wilderness characteristics overlap or are next to eligible or suitable Wild and Scenic River segments or ACECs, management of these other areas could also indirectly protect wilderness characteristics due to the measures proposed for the other areas. These protective measures would include complementary management objectives and could offer some indirect protection of wilderness characteristics for units managed primarily for other resource considerations.

Roadless Areas would also be impacted by surface-disturbing activities and allowable uses that decrease wilderness attributes on Roadless Areas. The nature and types of impacts on Roadless Areas would be similar to those on lands with wilderness characteristics, however Roadless Areas would be less susceptible to such impacts due to the protections placed on Roadless Areas based on their management classification. In particular, Roadless Areas would be less prone to impacts from road construction and reconstruction, timber removal, and mineral development, as Roadless Areas are protected specifically from these activities (36 CFR 294).

Implementing management for the following resource would have negligible or no impact on wilderness characteristics and Roadless Areas; therefore it is not discussed in detail: mineral split-estate.

4.14.3 Impacts on lands with Wilderness Characteristics Common to All Alternatives

The nature and type of impacts described below are common to all alternatives, but the context and intensity may vary by alternative.

Impacts from Travel and Transportation Management

Under all alternatives, approximately 17,600 acres of lands with wilderness characteristics would be closed to motorized travel (**Table 4-70**, Acres of Allocations Potentially Affecting Lands with Wilderness Characteristics and Roadless Areas). Where motorized travel is closed or limited to existing roads, there would be indirect protection of wilderness characteristics. Restricting motorized travel would reduce the noise of human visitors and the disturbance caused by motorized vehicles, which would enhance experiences of solitude and naturalness. Impacts from closing areas on motorized travel are the same under all alternatives.

Table 4-70
Acres of Allocations Potentially Affecting Lands with Wilderness Characteristics and Roadless Areas

Management Action	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<i>Total Acres of All Types of Habitat, Excluding Nonhabitat</i>						
ROW Exclusion	190,700	905,700	1,435,100	0	152,900	1,394,100
BLM	12,100	330,200	385,700	0	12,100	1,393,900
Forest Service	178,600	575,500	1,049,400	0	140,800	170
ROW Avoidance	549,200	529,500	0	1,539,100	1,037,900	30
BLM	35,700	55,600	0	388,000	322,900	30
Forest Service	513,500	473,900	0	1,151,000	714,800	0
Closed to Oil and Gas Leasing	3,090,900	360,400	420,400	365,100	44,500	360,400
BLM	2,081,200	323,900	383,900	308,900	8,100	323,900
Forest Service	1,009,700	36,500	36,500	56,200	36,400	36,500
NSO	3,117,800	259,700	247,900	315,900	285,200	259,800
BLM	1,193,300	11,800	0	15,900	37,500	11,900
Forest Service	1,924,500	247,900	247,900	300,000	247,700	247,900
CSU (Oil and Gas)	4,396,500	316,700	316,700	328,200	317,900	316,700
BLM	5,950	0	0	11,500	0	0
Forest Service	4,390,500	316,700	316,700	316,700	317,900	316,700
TL	1,215,300	10,100	0	49,900	36,300	10,100
BLM	914,300	10,100	0	49,900	36,300	10,100
Forest Service	305,000	N/A	N/A	N/A	N/A	N/A
Recreation Sites	440	670	670	670	670	670
BLM	440	670	670	670	670	670
Forest Service	N/A	N/A	N/A	N/A	N/A	N/A
Closed to Livestock Grazing	22,990	20,690	406,000	22,990	20,690	20,690
BLM	290	290	385,600	290	290	290
Forest Service	22,700	20,400	20,400	22,700	20,400	20,400
Closed to Motorized Travel	2,791,900	2,791,900	2,791,900	2,791,900	2,791,900	2,791,900
BLM	1,090,500	1,090,500	1,090,500	1,090,500	1,090,500	1,090,500
Forest Service	1,701,400	1,701,400	1,701,400	1,701,400	1,701,400	1,701,400
ACECs/Zoological Areas	19,340	385,600	290,100	387,900	386,100	331,600
BLM	19,340	385,600	290,100	387,900	386,100	331,600
Forest Service	0	0	0	0	0	76,900

Source: BLM 2013a; Forest Service 2013a

4.14.4 Alternative A

Management actions to protect other resources and special designation areas offer some protection of wilderness characteristics and Roadless Areas. Alternative A includes the



fewest GRSG protections and is least restrictive of surface-disturbing activities that could alter the natural setting, as well as reduce opportunities for solitude or primitive recreation, of lands with wilderness characteristics. Therefore, wilderness characteristics are likely to be degraded under this alternative. Roadless Areas are also least likely to experience additional protections under this alternative.

Impacts from Lands and Realty Management

Under Alternative A, 12,100 acres (3 percent) of lands with wilderness characteristics are managed as ROW exclusion (**Table 4-70**) and 161,700 acres of Roadless Areas (10 percent) are managed as ROW exclusion. This provides indirect protection to wilderness characteristics (preserving naturalness and opportunities for solitude and primitive recreation) and Roadless Areas by prohibiting disturbance from transmission lines, roads, and other utility developments. Additionally, 30,300 acres of lands with wilderness characteristics and 403,400 acres of Roadless Areas are managed as ROW avoidance areas, which would have similar effects on lands with wilderness characteristics and Roadless Areas as ROW exclusion.

Impacts from Leased Fluid Minerals Management

Under Alternative A, 8,000 acres of lands with wilderness characteristics and 56,000 acres of Roadless Areas are closed to oil and gas leasing. Closing acres to fluid minerals leasing would protect wilderness characteristics by prohibiting development and infrastructure related to those actions, subject to valid existing rights. Alternative A has the fewest acres closed to oil and gas leasing on BLM-administered lands and consequently offers the least protection to lands with wilderness characteristics.

Impacts from Recreation and Visitor Services Management

Under Alternative A, 440 acres of recreation sites overlap with lands with wilderness characteristics. These would continue to be managed under current guidance, which would result in no additional protections or degradation of wilderness characteristics.

Impacts from Livestock Grazing Management

Under Alternative A, 290 acres of lands with wilderness characteristics and 22,700 acres of Roadless Areas are closed to livestock grazing. Livestock grazing can impact opportunities for solitude and naturalness of appearance. New developments, such as fences, related to livestock grazing could also lessen naturalness of appearance or limit unconfined recreation, although additional development would be limited. Those areas with wilderness characteristics that are not closed to grazing would continue to be affected in a limited way by grazing activities and grazing-related development.

Impacts from Special Designations Management

Under Alternative A, the existing 59 ACECs in the planning area would to be maintained. The 14,200 acres of ACECs that overlap lands with wilderness characteristics would continue to provide indirect protections to those characteristics. Under this alternative, no additional ACECs would be designated, so no additional protection to wilderness characteristics would result. Additionally, no ZAs would overlap with Roadless Areas and,

therefore, Roadless Areas would not receive additional protection from Zoological Areas under this alternative..

4.14.5 Alternative B

Impacts from Lands and Realty Management

Under Alternative B, 330,200 acres of lands with wilderness characteristics (318,100 more acres than under Alternative A) and 141,000 acres of Roadless Areas (20,700 fewer acres than under Alternative A) would be managed as ROW exclusion areas. Additionally, 55,400 acres of lands with wilderness characteristics and 476,800 acres of Roadless Areas would be managed as ROW avoidance areas. Types of impacts are described under Alternative A.

Impacts from Leased Fluid Minerals Management

Under Alternative B, 323,900 acres of lands with wilderness characteristics would be closed to oil and gas leasing, 315,900 more acres than under Alternative A, thereby offering more protection of lands with wilderness characteristics. Under this alternative 36,500 acres of Roadless Areas would be closed to oil and gas leasing, which is a 19,500 fewer acres than under Alternative A. This could result in fewer additional protections to Roadless Areas as compared with Alternative A.

Impacts from Recreation and Visitor Services Management

Under Alternative B, 670 acres of recreation sites would overlap lands with wilderness characteristics. In PPMA, the only recreation allowed would be neutral or beneficial to GRSG. Some types of restrictions, such as those that would limit visitor use and surface disturbance, would likely enhance experiences of solitude and provide protections to wilderness characteristics. However, other types of restrictions, such as limits on dispersed recreation, could degrade wilderness characteristics by limiting opportunities for primitive and unconfined recreation.

Impacts from Livestock Grazing Management

Impacts would be approximately the same as those described under Alternative A, as only 2000 more acres with wilderness characteristics on BLM- and Forest Service-administered land would be closed under Alternative B as under Alternative A.

Impacts from Special Designations Management

Under Alternative B, 385,600 acres of lands with wilderness characteristics would overlap with ACECs and would experience indirect protections. Impacts on Roadless Areas would be the same as those described under Alternative A.

4.14.6 Alternative C

Impacts from Lands and Realty Management

Under Alternative C, 202,600 acres of lands with wilderness characteristics and 141,000 acres of Roadless Areas would be managed as ROW exclusion areas. No lands with wilderness characteristics would be designated as ROW avoidance areas under Alternative C, and 476,800 acres of Roadless Areas would be designated as ROW avoidance. Alternative C



would offer more indirect protections to lands with wilderness characteristics and Roadless Areas through ROW exclusion and avoidance than would Alternative A.

Impacts from Leased Fluid Minerals Management

Under Alternative C, 383,900 acres of lands with wilderness characteristics would be closed to oil and gas leasing, thereby offering substantially more protection of lands with wilderness characteristics. Under this alternative 36,500 acres of Roadless Areas would be closed to oil and gas leasing. Impacts on Roadless Areas would be the same as those under Alternative B.

Impacts from Recreation and Visitor Services Management

Impacts are the same as those described under Alternative B.

Impacts from Livestock Grazing Management

Under Alternative C, 385,600 acres of lands with wilderness characteristics would be closed to livestock grazing, 385,310 more acres than under Alternative A. Consequently, Alternative C would provide more protection of wilderness characteristics than Alternative A

Impacts from Special Designations Management

Under Alternative C, 39 new ACECs would be designated, which would indirectly protect 290,000 acres of land with wilderness characteristics that overlap the new ACECs. Impacts on Roadless Areas would be the same as those described under Alternative A.

4.14.7 Alternative D

Impacts from Lands and Realty Management

Under Alternative D, impacts of ROW exclusion areas on lands with wilderness characteristics are the same as those under Alternative A. Additionally, 77,780 acres of lands with wilderness characteristics would be managed as ROW avoidance areas, and 298,000 acres would be managed as ROW avoidance with limited exclusion. Managing lands with wilderness characteristics as ROW avoidance areas would result in more protection under this alternative than under Alternative A. More acres of Roadless Areas would be managed as ROW exclusion (178,400 acres) and ROW avoidance (513,500 acres) under this alternative than under any of the other alternatives. Roadless Areas would experience more additional protection under this alternative than under any of the other alternatives.

Impacts from Leased Fluid Minerals Management

Under Alternative D, 308,900 acres of lands with wilderness characteristics would be closed to oil and gas leasing, which is 300,900 more acres than under Alternative A, thereby offering more protection of lands with wilderness characteristics. Additionally, 56,200 acres of Roadless Areas would be closed to oil and gas leasing. Impacts on Roadless Areas would be similar to those under Alternative A.

Impacts from Recreation and Visitor Services Management

Impacts are similar to those described under Alternative B, except that Alternative D would also try to minimize adverse recreation effects on GRSG.

Impacts from Livestock Grazing Management

Impacts are the same as those described under Alternative A.

Impacts from Special Designations Management

Impacts on lands with wilderness characteristics are the same as those described under Alternative A.

4.14.8 Alternative E

Impacts from Lands and Realty Management

Under Alternative E, impacts of ROW exclusion areas on lands with wilderness characteristics would be the same as those under Alternative A. Additionally, 322,900 acres of lands with wilderness characteristics would be managed as ROW avoidance areas. As such, this alternative would offer more protection to lands with wilderness characteristics than under Alternative A. Roadless Areas would experience less protection under Alternative E, which would manage 140,800 acres as ROW exclusion than they would under Alternative A. However, 476,400 acres of Roadless Areas would be managed as ROW avoidance under Alternative E, which is 73,000 more acres than under Alternative A.

Impacts from Leased Fluid Minerals Management

Under this alternative, 8,100 acres of lands with wilderness characteristics would be closed to oil and gas leasing, offering negligibly more protection than Alternative A. Additionally 36,400 acres of Roadless Areas closed to oil and gas leasing, which would result in less additional protection to Roadless Areas than would occur under Alternative A.

Impacts from Recreation and Visitor Services Management

Impacts would be similar to those described under Alternative B, except that Alternative E would also apply seasonal, timing, and travel restrictions in order to reduce impacts on GRSG.

Impacts from Livestock Grazing Management

Impacts are the same as those described under Alternative B.

Impacts from Special Designations Management

Impacts on lands with wilderness characteristics are the same as those described under Alternative A.

4.14.9 Alternative F

Impacts from Lands and Realty Management

Impacts of ROW exclusion areas under Alternative F are the same as under Alternative B. Under Alternative F, 12,600 acres would be managed as ROW avoidance areas. Types of impacts are described under Alternative A.

Impacts from Leased Fluid Minerals Management

Impacts are the same as those described under Alternative B.



Impacts from Recreation and Visitor Services Management

Impacts are the same as those described under Alternative B.

Impacts from Livestock Grazing Management

Impacts are the same as those described under Alternative A.

Impacts from Special Designations Management

Under Alternative F, 17 or 18 new BLM ACECs would be designated, which would indirectly protect up to 331,600 acres of land with wilderness characteristics that overlap the new ACECs. No data was available for overlap with Forest Service ZAs.

4.15 Social and Economic Conditions (Including Environmental Justice)

This section discusses social and economic impacts from proposed GRSG management actions related to other resources and resource uses. Existing social and economic conditions are described in **Section 3.22**, Social and Economic Conditions (Including Environmental Justice). This section also addresses environmental justice impacts and the differences among alternatives for the social and economic impacts identified.

This section is organized slightly differently than the sections for other resource areas. First, the section is divided in three parts, addressing economic, social, and environmental justice impacts separately. Even though they are interrelated, this analytical separation facilitates discussion of impacts. Second, rather than discussing all impacts under each alternative in turn, impacts are discussed by type of economic activity or social impact. This facilitates comparison of alternatives.

4.15.1 Methods and Assumptions

Indicators

Conservation measures related to GRSG habitat could have impacts on resource uses on BLM-administered lands; impacts on social and economic conditions could result from these changes in resource uses. Many of the indicators used to characterize social and economic conditions are quantitative, including population, demographics (e.g., age and gender breakouts), local industry (e.g., recreation and mineral development), employment, personal income, and presence of minority and low-income populations. Other indicators, especially for social conditions, are qualitative.

Assumptions

- The analysis of economic impacts of management alternatives on grazing used billed AUMs as a baseline, estimated as a multi-year average share of active AUMs. Active AUMs measure the amount of forage from land available for grazing. Forest Service terms this measure “permitted” AUMs. Billed AUMs measure the amount of forage for which BLM and Forest Service bill annually. Forest Service uses the term “authorized” AUMs for the same concept.
- The analysis of economic impacts of management alternatives on recreation assumed that economic impacts would derive from reduction in recreation activities by nonlocal visitors. The analysis assumed that local visitors will

continue to spend on recreation locally, even if management actions prohibit use of recreational resources on federal lands. However, the analysis assumed that nonlocal visitors to federal lands would move their recreation elsewhere, outside the primary study area, if federal lands are no longer available for recreation and thus spend associated funds outside the study area as well.

4.15.2 Nature and Types of Effects

The main economic impacts derived from changes in resource management are reflected in changes in local employment and earnings, costs incurred by the private sector, fiscal revenues and regional growth prospects.

For the analysis of social impacts, two types of impacts capture the main social impacts that can be expected from changes in resource management. The first is that which is derived from migration induced by management actions. These impacts are induced by economic opportunities that drive population into or out of specific areas and affect population growth as well as the demand for housing and public services. The second is that associated with specific interest groups, community livelihoods, or minority and low income populations (i.e., effects described in the section on Environmental Justice).

4.15.3 Economic Impacts

Impacts from Management Actions Affecting Grazing Allotments

Overall Employment, Earnings, and Output per Job Impacted by Management Alternatives

The potential impacts of management alternatives affecting grazing on output and employment were estimated quantitatively using the IMPLAN economic model. Detailed assumptions for the quantitative analysis are described in **Appendix R**, Economic Impact Analysis Methodology. Alternatives A, B, D, and E would have similar economic effects because they would maintain the same number of AUMs, although Alternatives B, D, and E (along with Alternatives C and F) would carry increased restrictions on lessees' ability to construct or maintain range improvements and conduct treatments (e.g., vegetation treatments).

Although grazing on federal lands not containing GRSG habitat would not be directly affected by the choice of alternatives, it could be affected indirectly, to the extent that loss of access to federal lands for grazing affects the feasibility of the grazing operations.

The IMPLAN model used 2011 and 2013 data for active AUMs. The model used an average of 2000 to 2011 data for billed AUMs on lands permitted by BLM, because billed AUMs fluctuate from year to year (BLM 2012d, BLM 2013b, BLM 2013c).

For the analysis, the BLM and Forest Service calculated economic impacts for each alternative based on an estimated reduction in the number of billed AUMs (**Table 4-71**, Annual Impact of Management Actions Affecting Livestock AUMs on Output, Employment, and Earnings Compared to Alternative A). Actual economic impacts could be



Table 4-71
Annual Impact of Management Actions Affecting Livestock AUMs on Output, Employment, and Earnings Compared to Alternative A

	Alternatives B, D, and E ¹	Alternative C	Alternative F
Primary Study Area			
Output (\$ millions)	See notes	-\$100.6	-\$26.1
Employment	See notes	-997	-259
Earnings (\$ millions)	See notes	-\$34.5	-\$8.9
Primary and Secondary Study Area			
Output (\$ millions)	See notes	-\$100.9	-\$26.2
Employment	See notes	-997	-256
Earnings (\$ millions)	See notes	-\$34.6	-\$9.0

Source: Calculated using the IMPLAN model, applied to active and billed AUMs for each alternative (BLM 2012d, 2013b, 2013c; and Forest Service 2013c), as explained in the text and in **Appendix R**, Economic Impact Analysis Methodology.

Note: Output and earnings are in millions of 2010 dollars.

1. Based on available AUMs, there would be no change in economic activity from grazing in Alternatives B, D, or E. However, as described in the text, management actions in Alternatives B, D, and E would result in restrictions to range improvements, which may increase ranch operators' costs or lead to other adverse economic impacts.

less than these estimates. For example, if the number of billed AUMs is less than the number of active AUMs, ranchers could shift grazing from lands closed to grazing to lands that remain open for grazing. In other words, ranchers could use non-billed active AUMs as a buffer to absorb reductions in AUMs imposed by management alternatives, resulting in minimal economic impact. Further details are provided in **Appendix R**, Economic Impact Analysis Methodology. Note that the employment estimates include the labor of proprietors and employees, but not unpaid or paid-in-kind family labor, which is typically not accounted for in labor force statistics. If family labor were included, then labor use differences among alternatives would be larger.

Alternative A—Under Alternative A, grazing on federal lands would not be affected. The alternative would not change the amount of land open for grazing (BLM 2013b; Forest Service 2013c). Thus, there would be no change in annual output, annual jobs, or annual earnings relative to current trends. Based on the location of current federal grazing lands, the economic contribution of grazing would be similar to the pattern under current management, with particular concentrations in Cassia, Gooding, Jefferson, Lincoln, and Owyhee Counties, Idaho. These are the counties in which 20 percent or more of earnings are attributable to livestock, according to **Chapter 3-22**, Social and Economic Conditions, Including Environmental Justice.

Alternative B—Under Alternative B, economic activity attributable to grazing on federal lands with GRSG habitat is likely to be similar to that under Alternative A because there would be no changes in the amount of GRSG habitat open for grazing. In the long term, livestock grazing in priority habitat may be reduced in this alternative compared to in Alternative A to conform to GRSG habitat objectives, although impacts would be site-specific and likely occur gradually over time. Some decisions on range improvements and

vegetation treatments would be subject to the conservation, enhancement, or restoration of GRSG habitat, potentially reducing forage available because permittees would be required to move livestock off-range if necessary to protect habitat. Seasonal restrictions could also be imposed, requiring that permittees move their livestock elsewhere, adding costs to their operations. The extent to which these additional constraints would reduce grazing on federal lands is not clear, but Alternative B would likely result in some reductions in economic activity compared to Alternative A.

Alternative C—Under Alternative C, economic activity attributable to grazing on federal lands would be reduced. Livestock grazing on federal lands would be restricted to those with no GRSG habitat (BLM 2013b; Forest Service 2013c). Adverse impacts on output, employment, and earnings would be greater in Alternative C than any other alternative. The economic impact of Alternative C may also be greater if the change in management actions, such as the removal of GRSG habitat from livestock grazing, impairs the economic viability of some grazing operations – especially if the land previously used by a ranch is then left deserted and unused. Management actions that prevent the viability of grazing operations could reduce the value of land used for grazing.

Alternative D—Economic activity associated with grazing on federal lands with GRSG habitat would likely be similar to Alternatives A and B because there would be no changes in the amount of GRSG habitat open for grazing (BLM 2013b; Forest Service 2013c). Some restrictions on range improvements or seasonal restrictions that require permittees to move livestock off-range could affect the availability of forage. In addition, measures to limit impacts on leks by trailing livestock and structural range improvements could result in additional costs. The extent to which these additional constraints would affect economic activity from grazing on federal lands is not clear. However, Alternative D would likely result in some reductions in economic activity compared to Alternative A.

Alternative E—Economic activity associated with grazing on federal lands with GRSG habitat is likely to be similar to Alternatives A, B, and D because there would be no change in the amount of GRSG habitat open for grazing (BLM 2013b; Forest Service 2013c). Some limitations would apply to structural range improvements, which could increase costs for construction and maintenance of improvements or impact the ability to distribute livestock. Similar to Alternative B, Alternative E could also impose seasonal restrictions that may increase costs for operators. These restrictions would more likely be imposed on lands designated as core or priority GRSG habitat, rather than general GRSG habitat (BLM 2013b). The extent to which these additional constraints would affect economic activity from grazing is not clear. However, Alternative E may result in some reductions in economic activity compared to Alternative A.

Alternative F—Under Alternative F, economic activity due to grazing on federal lands would be reduced because of closure of some ADH to livestock grazing as well as actions to prohibit grazing after fire and prohibit new range improvements, which would result in increased costs for ranchers. The impact of Alternative F may be greater than shown if the reduction in federal AUMs impairs the economic viability of some grazing operations. The impact would also be greater if the land previously used by a ranch is then left deserted and



unused. Economic impacts under Alternative F would be less than under Alternative C but more than under Alternatives A, B, D, and E.

Other Values Associated with Livestock Grazing

As described in **Chapter 3**, BLM- and Forest Service-administered land managed for livestock grazing provides both market values and non-market values; the latter include open space and western ranch scenery, which provide value to some residents and outside visitors, and ranches may also provide some value to the non-using public (e.g., the cultural icon of the American cowboy). Some residents and visitors also perceive non-market opportunity costs associated with livestock grazing; in addition, some of the lifestyle value of ranching is likely to be captured in markets (e.g., property values of ranches adjacent to BLM- and Forest Service-administered lands).

The “Other Values” discussion in **Section 3.22**, Socioeconomics and Environmental Justice, and **Appendix S**, Non-Market Valuation Methods, provide additional discussion of these values. Overall, the process for incorporating potential non-market values associated with the management of BLM- and Forest Service-administered land for livestock grazing into analyses of net public benefits remains uncertain. Since the scientific and economic literature on the topic does not provide adequate data or a consensus theoretical framework from which to analyze these values further, the BLM did not attempt to quantify these values for the present study.

To the degree that there are net benefits associated with non-market values attached to livestock grazing and ranching, these would be greatest in Alternatives A, B, D, and E, as these alternatives are likely to result in similar levels of livestock grazing operations in the study area (albeit with some restrictions for Alternatives B, D, and E). If the net non-market value associated with livestock grazing and ranching is positive, then that value would be greatest under Alternative A, slightly lower in Alternatives B, D, and E, lower still in Alternative F, and lowest of all under Alternative C, in line with the expected impacts on market values discussed above.

Impacts from Management Actions Affecting Recreation

Overall Employment, Earnings, Output, and Earnings per Job Impacted by Management Alternatives

As discussed in **Chapter 3**, service related sectors, including many typically linked to recreational activities such as the accommodation and food services industry, are important sources of employment and earnings throughout the study area. One recreation-related industry – retail trade – accounted for the largest share of employment (10.6 percent) of all industries in the study area in 2010. Another recreation-related industry – arts, entertainment, and recreation – demonstrated strong growth in employment (46.0 percent) from 2000 to 2010.

Management actions under the various alternatives may impact recreational activities with consequences for employment and earnings. The potential impacts of management alternatives affecting recreation on overall employment, earnings, and output were estimated quantitatively using IMPLAN. Input on the potential impact of management actions on

recreation activities was obtained from BLM and Forest Service recreation specialists. In addition, visits were estimated separately for local and nonlocal visits (see **Appendix R**, Economic Impact Analysis Methodology, for details). Only nonlocal visits are considered in the quantitative impact estimates presented below. As explained in the assumptions previously listed, local recreational expenditures are expected to be spent locally regardless of the availability of federal lands for recreational purposes. **Table 4-72**, Average Annual Impact of Management Actions Affecting Recreation on Output, Employment, and Earnings Compared to Alternative A, presents the results of the IMPLAN quantitative analysis.

Table 4-72
Average Annual Impact of Management Actions Affecting Recreation on Output, Employment, and Earnings Compared to Alternative A

	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<i>Primary Study Area</i>					
Output (\$ millions)	\$11.3	-\$121.8	\$34.1	\$34.1	-\$98.3
Employment	109	-1,180	331	331	-953
Earnings (\$ millions)	\$2.6	-\$28.2	\$7.9	\$7.9	-\$22.8
<i>Primary and Secondary Study Area</i>					
Output (\$ millions)	\$11.4	-\$122.4	\$34.3	\$34.3	-\$98.9
Employment	109	-1,180	331	331	-953
Earnings (\$ millions)	\$2.6	-\$28.4	\$7.9	\$7.9	-\$22.9

Source: Calculated using the IMPLAN model (BLM 2013c), as explained in the text and in **Appendix R**, Economic Impact Analysis Methodology.

Note: Output and earnings are in millions of year 2010 dollars.

BLM SRPs and Forest Service SUAs that are in GRSG habitat could be modified in some alternatives. This could result in a loss of commercial revenue to recreation service providers, as well as loss of permit-generated fee revenue for the BLM and Forest Service as managing agencies. There could, however, be some beneficial economic or social impacts, such as reductions in user conflicts among different recreation users, and enhanced opportunities for recreation activities in primitive settings such as low-density backcountry camping. Under Alternatives C and F, there might be some small reductions in SRPs for those activities that typically take place on habitat. However, it is more likely that the activity issued under the SRP would be redirected to an area outside of habitat. Because specific permit modifications are not prescribed at the level of this EIS, it is not possible to quantify the direction and amount of any economic impacts that are specifically related to SRPs.

Alternative A—Under Alternative A, existing recreation opportunities in the study area would be maintained. Alternative A would not result in economic impacts from changes in management of recreation, when compared to current trends (BLM 2013e). Currently,



counties in which 25 percent or more of employment is associated with recreation-related industries, according to **Appendix Q**, Detailed Employment and Earnings Data, include Madison County in Montana and Blaine County in Idaho.

Alternative B—Alternative B would only allow recreational uses that are neutral or beneficial to GRSG habitat in PPMA. Motorized recreation would be most affected by this management alternative and would be expected to decrease when compared to Alternative A. Hunting would be expected to decrease as well, although to a smaller degree. Non-motorized recreation in general would be expected to benefit. Because non-motorized recreation represents almost 70 percent of the recreation in the study area, the overall result expected would be a slight increase in economic activity. An estimated additional 109 jobs and annual labor earnings of \$2.6 million would be supported in the study area by recreational activities when compared to Alternative A.

Alternative C—Alternative C would only allow recreational uses that are neutral or beneficial to GRSG habitat. Alternative C would impact hunting and motorized recreational activities to a greater extent than under Alternative B. A small increase in non-motorized recreation could occur, but not enough to compensate the decrease in other types of recreation. Alternative C would result in the greatest overall adverse impacts on recreation in the study area. The economic impact would be a reduction in 1,180 jobs and \$28.2 million in annual labor earnings supported by recreation in the study area.

Alternative D—Alternative D would manage recreation to minimize impacts on GRSG in Recreation Management Areas. No hunting outfitter and guide permits would be allowed in Core or Priority Habitats. Alternative D would be expected to have a similar impact to recreational activities as Alternative B, but with a lesser adverse impact on motorized recreation. Despite these restrictions in Recreation Management Areas, BLM recreation specialists expect that Alternative D (along with Alternative E) would be the most beneficial to recreational activity overall. An estimated additional 331 jobs and annual labor earnings of \$7.9 million would be supported in the study area by recreational activities when compared to Alternative A.

Alternative E – Alternative E would minimize impacts on GRSG by managing travel and transportation impacts on in PPH. Seasonal restrictions to motorized travel would be applied. Alternative E would be expected to result in the same effects on recreational activity as Alternative D.

Alternative F—Alternative F would result in similar adverse impacts on recreation as Alternative C, but with slightly less adverse long term growth impacts, resulting in a slightly lower adverse impact to recreational activities than Alternative C, when compared to Alternative A.

Other Values Associated with Recreation

As described in **Chapter 3**, only a portion of the value of recreation on BLM- and Forest Service-administered lands is captured in the marketplace. Here, the concept of consumer surplus is used to measure the “non-market” portion of recreation value. As noted in

Chapter 3 and **Appendix S**, Non-Market Valuation Methods, these non-market values are not directly comparable to output, earnings, or jobs associated with various resource uses on BLM- and Forest Service-administered lands, which are described elsewhere in this section.

As discussed above, some of the alternatives would be expected to result in changed opportunities for recreation, with the effects differing depending on the alternative and the nature of recreational activity (e.g., hunting, motorized recreation, or non-motorized recreation). In addition to having effects on jobs, earnings and other market-based economic impacts, the changes in recreation would also have effects on other or non-market values. The analysis of other values is described in detail in **Appendix S**, Non-Market Valuation Methods. One difference in assumptions between the market-based and non-market-based analysis is that whereas the analysis of recreation expenditures focuses on recreation activity of people who do not live within the study area, the analysis of non-market values includes the activity of all people who recreate on the BLM- and Forest Service-administered lands regardless of whether they live within the planning area. Thus, the non-market analysis applies to all recreation activity, whether or not it represents additional income to the regional economy.

The relative magnitude and direction of the results for the analysis of non-market recreation values are similar to that for recreation expenditures: current Alternatives C and F would result in lower value than Alternative A, while Alternatives B, D, and E would be expected to result in higher values than Alternative A, due to the expected increases in hunting and non-motorized recreation compared to Alternative A. The changes in consumer surplus are calculated based on forecasted changes in recreation activities (differing by alternative), which are described in more detail in **Appendix S**, Non-Market Valuation Methods, and **Appendix R**, Economic Impact Analysis Methodology.

Alternative A—Recreation under Alternative A is expected to increase over time along with changes in demand for recreational opportunities. Under Alternative A, recreation on federal lands is estimated to be about \$462.1 million on average over 2015-2034, an increase of \$30.3 million (about 7 percent) from the current value reported in **Chapter 3**.

Alternative B—Under Alternative B, recreation would support a greater increase in consumer surplus value than that projected for Alternative A. Recreation on federal lands in Alternative B is estimated to contribute an annual average consumer surplus value of about \$469.2 million, for an increase of about \$7 million over that expected for Alternative A.

Alternative C—As noted above, management under Alternative C would impose the most constraints on surface disturbing activities and therefore would be expected to have the greatest potential impacts on recreation activity. Recreation on federal lands under Alternative C is estimated to contribute an annual average consumer surplus value of about \$398 million, which is a decrease compared to that projected for Alternative A (lower by about \$64 million).



Alternatives D and E—Under these two alternatives, recreation would support more consumer surplus value than Alternative A, amounting to an estimated \$480.4 million (an increase of \$18 million compared to Alternative A).

Alternative F—Management under Alternative F would impose constraints on surface disturbing activities that would be expected to result in impacts on recreation activity. Recreation on federal lands under Alternative F is estimated to contribute an annual average consumer surplus value of about \$410.2 million, second-lowest among the alternatives, representing a decrease compared to Alternative A (lower by about \$52 million).

Impacts from Management of Oil and Gas Leases

The potential economic impacts of management alternatives affecting oil and gas drilling, completion, and production were not analyzed using IMPLAN, given the relatively small number of wells that would be affected and that no oil has been commercially produced in the study area to date. Based on the restrictions identified for the management alternatives, BLM oil and gas specialists developed a RFDS that includes estimates of the number of leases and wells and amount of oil and gas production capacity over the next 20 years. The specialists projected that the number of wells and production capacity would be the same for Alternatives A, D, and E. In Alternatives B, C, and F, management actions would restrict exploration and development activity to fewer than half the number of oil and gas leases and approximately two-thirds of the production capacity (BLM 2013f).

Alternative A—Alternative A would continue current trends in economic activity associated with oil and gas leases. Alternative A would involve 47 wells drilled, including 35 wildcat wells and 12 step-out wells, over a 20 year period. The BLM estimates that 16 wells would be productive, with 28 billion cubic feet of production capacity. There would be no change in trends in annual output, annual jobs, or annual earnings compared to current management (BLM 2013f). Based on estimates recently developed for neighboring Utah (BLM 2013g), 16 wells at a drilling and completion cost of \$3.25 million each, could generate an average of 11 annual direct jobs during the period and approximately \$700 thousand in direct annual earnings, if approximately 75 percent of expenditures were done locally. Additional jobs and earnings could be generated indirectly. Production of 28 billion cubic feet over a 20 year period could add an additional 2 annual direct jobs and \$200 thousand in direct annual earnings, with additional jobs and earnings being generated indirectly.

Alternative B—Alternative B would result in economic impacts associated with restrictions on new surface occupancy, seasonal and methodological restrictions on exploratory drilling, limits on proposed surface disturbance for existing leases, and mandatory mitigation in priority habitats. Alternative B would also impose costs related to required full site-specific reclamation bonds to cover costs to restore the lands to pre-disturbance condition. Drilling and production would drop, compared to Alternative A, with approximately 33 wells drilled, including 27 wildcat wells and 6 step-out wells; 8 wells would be productive, with 20.5 billion cubic feet of production capacity. As a result of implementing Alternative B, economic activity and associated output, employment, and earnings related to oil and gas production would decrease by approximately 30 to 50 percent compared to Alternative A (BLM 2013f),

to something between 6 and 9 annual direct jobs, \$450 thousand to \$630 thousand in annual earnings, and additional indirect jobs and earnings.

Alternative C—Economic impacts under Alternative C would be similar to those under Alternative B. Alternative C would cause a reduction in economic activity by closing 80 percent of the planning area to oil and gas leases. Alternative C would result in lost economic activity related to required relinquishment of leases/authorizations (BLM 2013f), similar to those of Alternative B

Alternative D—Alternative D would close the same number of acres of federal mineral estate with high oil and gas potential as Alternative A, and economic impacts would be similar to Alternative A.

Alternative E—Alternative E would have similar economic impacts as Alternatives A and D. The alternative involves some restrictions to surface development to minimize impacts on GRSG habitat, which would have minor economic impacts (BLM 2013f).

Alternative F—Economic impacts under Alternative F would be similar to the impacts under Alternatives B and C (BLM 2013f).

The economic impact of decreases in oil and gas development in the study area under Alternatives B, C, and F would be principally felt in areas with oil and gas potential. The RFD estimated that Bear Lake Plateau area in Idaho, the Four Rivers area in Idaho, and the Dillon Field Office area in Montana would be areas with oil and gas production capacity under current management and that the Four Rivers area and the Dillon Field Office would be areas with oil and gas production capacity under Alternatives B, C, and F (BLM 2013f).

Impacts from Management of Locatable and Salable Minerals

As described in **Chapter 3**, the study area produces several salable and locatable minerals, including phosphate, Oakley stone, silver, sand, gravel, and some industrial minerals (e.g., molybdenum). Areas with phosphate and Oakley stone production potential overlap with GRSG habitat, which could have implications for mining activity in the long-term. Three companies operate phosphate ore mines and processing plants in Idaho: J.R. Simplot Co., Nu-West Mining, and P4 Productions LLC. Of these three companies, only P4 Productions' LLC Blackfoot Ridge mine falls is on Sage-Grouse habitat, with potential for impacts from the management actions (BLM 2013h). An estimated 40,000 tons of Oakley stone are mined annually from unpatented mining claims in southern Idaho and northern Utah, providing full-time employment for approximately 60 people and seasonal employment for an additional 100 to 200 laborers (BLM 2013h).

Many community pits of sand and gravel also fall within GRSG habitat. Economic activity associated with stone quarries and mineral materials disposal and sales could decrease under several of the GRSG habitat management alternatives (BLM 2013h).

Alternatives A and E would close 136,226 acres to mineral material disposal but would leave the rest of the planning area open. Alternatives B, C, and F would close PPH to mineral



material sales and require restoration of salable mineral pits no longer in use to meet GRSG conservation objectives (see **Section 4.10**, Mineral Materials). Some lands would be withdrawn from locatable mineral entry (see **Section 4.9**, Locatable Minerals).

Alternative D would also require restoration of saleable mineral pits no longer in use, would restrict some exploration activities and surface occupancy, and would require reclamation bonds for new authorizations in core Sage-Grouse habitat. Alternative D would maintain lands open to locatable mineral entry.

Economic activity associated with management of locatable minerals and salable mineral materials would be the same for Alternatives A and E, slightly lower (due to reduced exploration activity) under Alternative D, and lower still under Alternatives B, C, and F. Adverse impacts on mining under Alternatives B, C, and F would mostly likely be felt in counties such as Caribou and Custer, where the mining industry is estimated to account for 21 and 32 percent of all employment, respectively (Headwaters Economics 2013).

Impacts from Management Actions Affecting Geothermal Exploration and Development

Economic impacts from geothermal exploration and development are a function of construction and operation expenditures for geothermal electricity development, including drilling wells, constructing power plants, and operating facilities. Currently, 25 federal geothermal leases cover approximately 60,000 acres in Idaho, primarily near Raft River, Crane Creek, and Parma; 17 are located in GRSG habitat (BLM 2013i).

The BLM developed a RFDS for geothermal development as a basis for analyzing impacts associated with leasing and development of federal geothermal resources within the study area over the next 20 years. The RFDS analysis predicts that, under all alternatives, six power plants will come online over the next 20 years. The RFDS analysis also notes that Alternatives B, C, and F would limit exploration and development activity to lands outside GRSG habitat (BLM 2013i).

Alternative A—Under Alternative A, the BLM predicts geothermal exploration and development activity would include 28 new exploratory and development wells with 20 production wells and 15 injection wells. Alternative A would not impact economic activity associated with geothermal leases, relative current management trends (BLM 2013i).

Alternative B—Under Alternative B, lands with high geothermal potential that overlap PPH would be closed to geothermal leasing, exploration and development, leaving approximately 39,000 acres outside of GRSG habitat open to leasing. However, the RFDS forecasts that 23 exploratory and development wells and less seismic operations than Alternative A would result in 20 production wells and 15 injection wells, which would be the same as under Alternative A, resulting in minimal or no economic impacts compared with Alternative A (BLM 2013i).

Alternatives C and F—Alternatives C and F would be expected to lead to the same number of wells as Alternative B and similar outcomes as Alternatives A and B (BLM 2013i).

Alternatives D and E— Alternatives D and E would be similar to Alternative A in the number of wells and outcome (BLM 2013i).

Economic activity associated with geothermal development would be approximately the same for all alternatives, with no or minimal economic impacts compared to current management.

Impacts from Management Actions Affecting Wind Energy Development

Although the amount of future wind development in the study area is uncertain, currently proposed wind energy development in the study area includes approximately 465 MW, based on two projects: China Mountain, in Twin Falls County, ID, and Bell Rapids, near Hagerman, ID. According to the China Mountain Wind Project DEIS (BLM 2011b), the former project consists of 170 turbines producing 425 MW. The DEIS indicates the project (as proposed by the applicant and BLM, i.e., the Proposed Action) would generate 396 construction jobs (part-time and full-time) from direct expenditures, and a total of 749 jobs (for 2 years) from indirect and induced impacts, based on a study area that includes Twin Falls County, Idaho, and Elko County, Nevada. In the operations phase, according to the DEIS, the project would support 46 long-term full-time jobs, including direct, indirect, and induced effects (BLM 2011b).

If similar figures apply for the Bell Rapids project, scaled proportionally to the size of the project that would be built on BLM-administered lands (i.e., about one-tenth the size of the figures reported in the China Mountain Wind Project Draft EIS), then that project would generate about 75 jobs for a 2-year construction duration and about 5 long-term full-time jobs during operations. These estimates include direct, indirect and induced positions. The jobs in the Bell Rapids project would most likely be in Elmore and Gooding Counties, based on the location of that project.

Based on the RFDS for wind energy, under Alternatives A and F, this level of development would be maintained. BLM anticipates that Alternatives B through D may prevent wind energy development entirely. Alternative E could limit future wind energy development, with some development possible, depending on fulfillment of criteria established by the alternative (BLM 2013i). Thus, Alternatives B through E would result in lower annual output, employment, and earnings related to wind energy development compared to Alternatives A and F.

Impacts from Management Actions Affecting Land and Realty and Travel Management

Management actions that affect development of infrastructure could have important hindering effects on economic growth in the area. Limitations on new ROWs for power lines, pipelines, and access routes or restrictions to route construction and to travel on existing roads could increase the cost of new economic investments or make them no longer economically viable. Additional information about changes in cost effectiveness and efficiency associated with restrictions on ROW, corridors, and treatments are discussed in **Section 4.7**, Lands and Realty, and **Section 4.3**, Vegetation. A qualitative discussion of the



potential for economic impacts from restrictions to land use and transportation is provided below for each alternative.

Alternative A—Alternative A could result in some negative economic impacts on lands and realty and travel management associated with seasonal restrictions to road use to minimize disturbance to GRSG habitat. Alternative A would place the fewest restrictions on ROW development and route construction and maintain the largest area open to travel, among the alternatives. According to RFDS developed by BLM specialists, the proposed 516 miles of new 500-kV transmission lines would result in 100 miles of new transmission lines (BLM 2013i).

Alternative B—Alternative B could result in negative economic impacts on lands and realty and travel management by closing areas to ROW authorizations, limiting motorized travel on existing roads, and limiting new road construction in areas with primary habitat. In addition to restricted economic growth associated with road use and development restrictions, economic impacts would include increased costs associated with mandatory mitigation for surface disturbance that exceeds three percent for the area. Based on the RFDS, the BLM projects no new transmission lines (BLM 2013i). Alternative B would impose greater limitations and added costs to future economic investments in the study area compared with Alternative A.

Alternative C—Under Alternative C, economic impacts on lands and realty and travel management would be the same as under Alternative B.

Alternative D—Alternative D would result in economic impacts similar to those under Alternatives B and C because it would apply similar restrictions on motorized travel, except the restrictions would apply to medial and general habitat, as well as priority habitat. However, unlike as Alternatives B and C, Alternative D would not impose costs related to mandatory mitigation for surface disturbance. Costs resulting from restriction to infrastructure development under Alternative D would be greater than under Alternative A but less than under Alternatives B or C.

Alternative E—Management under Alternative E would have similar impacts on Alternative A and fewer impacts than under Alternatives B, C, and D. The BLM estimates that Alternative E could result in some new transmission lines, depending on whether the proposed projects meet established criteria (BLM 2013i).

Alternative F—Economic impacts from Alternative F would be similar to those under Alternatives B and C, except that Alternative F would limit motorized travel in restoration areas, as well as primary habitat, and would prohibit new road construction within a four-mile buffer from leks. Economic impacts from Alternative F would be greater than impacts under all other alternatives. However, the BLM does expect that development of transmission lines would be similar to that under Alternative A, with 100 miles of new transmission lines in the foreseeable future (BLM 2013i).

Impacts from Management Actions Affecting Special Status Species

Other Values Associated with Populations of GRSG

As described in **Chapter 3**, economists and policy makers have long recognized that rare, threatened, and endangered species have economic values beyond those associated with active “use” through viewing or hunting. **Chapter 3** and **Appendix S**, Non-Market Valuation Methods, document current methods to estimate these “non-use” values, including a description of the literature review that the BLM and Forest Service conducted to determine if there were existing non-use value studies for GRSG. Although there are no existing studies on valuation specific to the GRSG, several studies published in peer-reviewed scientific journals for bird species with similar characteristics find average stated willingness-to-pay between \$15 and \$58 per household per year in order to restore a self-sustaining population or prevent regional extinction (see **Appendix S**, Non-Market Valuation Methods, for details). These values represent a mix of use and non-use values, but the non-use components of value are likely to be the majority share since the studies primarily address species that are not hunted.

Because GRSG protection is a public good available to all households throughout the intermountain west, if similar per-household values apply and if even a small portion of the per-household value represents a non-use value, then the aggregate regional non-use value could be substantial. However, the BLM and Forest Service did not quantify the aggregate value because of several factors, including uncertainty associated with the comparability of the existing studies to the GRSG context and the documented difference between stated and actual willingness-to-pay.

From a qualitative perspective, however, the non-use values associated with populations of GRSG would be expected to correspond to the degree of habitat protection associated with each alternative. Current management, Alternative A, provides the least amount of protection for GRSG in the planning area and consequently could result in the most impacts on GRSG. As a result, to the degree that there are non-use values associated with populations of GRSG, management under Alternative A would have the greatest adverse impacts on those values.

As discussed in **Section 4.2**, Sage-Grouse and Sage-Grouse Habitat, most of the management actions under the alternatives would be beneficial for GRSG. It is therefore estimated that in comparison to Alternative A, each alternative would have a positive impact on non-use values associated with populations of GRSG. However, because so many factors (e.g., vegetation and soils management, livestock grazing management, fire and fuels management, recreation management, renewable energy development) impact the protectiveness of each alternative, it is difficult to anticipate the comparative protection, and therefore non-use values, provided by Alternatives B through F.

Impacts on Tax Revenues and Payments to States and Counties

Reductions in economic activity have the potential to result in reduced tax revenues for local and state governments, as well as the federal government. At the state level, tax revenue reductions could take the form of reductions in mineral severance taxes, mining taxes, sales



and use taxes, or personal and corporate income taxes. At the local level, revenues could be reduced if property or sales taxes decrease.

The alternatives are unlikely to have a significant impact on state tax revenues. As described in **Section 3.22**, Social and Economic Conditions (Including Environmental Justice), most Idaho state revenues come from sales and use taxes, income taxes, and property taxes. Most of Montana's state revenues come from individual income taxes and severance taxes, including oil and gas production taxes, although most of the mineral production in Montana is outside the planning area. Idaho's overall economic output, which provides a measure of its sales tax base, was almost \$53 billion in 2010 (2010 dollars). The most restrictive alternative (Alternative C) would reduce output by approximately \$222 million, or just over 0.4 percent of Idaho's total output. Moreover, some of these reductions in output would occur in Montana, which had a 2010 gross state product of almost \$35 billion in year 2010 dollars (BEA 2013). In both states, the stability of other sources of economic activity and resulting revenue – including severance taxes from oil and gas production and mine license taxes, which amounted to \$2.5 million in tax revenue in Idaho in 2011, and corporate and individual income taxes from a wide variety of industries – would likely avert additional impacts on state government revenues.

However, local government tax revenues could be affected in areas that would experience considerable changes in economic activity. As described in **Section 3.22**, Social and Economic Conditions (Including Environmental Justice), Idaho counties receive most of their revenue from property taxes, charges for local services, and redistribution of state and federal resources. In Montana, local government tax collections come almost entirely from property taxes. In both Idaho and Montana, counties receive a portion of federal mineral royalties from mining activities on federal land, as well as fees for grazing, recreation, and rents of ROW and oil and gas tax. Although specific impacts on local government tax revenues could not be quantified, the anticipated changes (both positive and negative) in economic activity as a result of the various alternatives suggest that local tax revenues could be affected more in certain counties than in others:

- Cassia, Gooding, Jefferson, Lincoln and Owyhee Counties, in Idaho, because of impacts on grazing
- Madison County in Montana and Blaine County in Idaho, because of impacts on recreation

Summary of Economic Impacts

Table 4-73, Average Annual Impact on Output, Employment and Earnings Compared to Alternative A (Recreation and Grazing Sectors), provides a summary of potential effects of management alternatives on employment, earnings, and employment in the study area, focusing on recreation and grazing. Alternative A represents impacts associated with current management. The differences shown in the table are derived from summing the estimated reductions for each alternative related to livestock grazing shown in **Table 4-71**, as well as data from **Table 4-72**. Although the quantitative analysis includes only earnings and

Table 4-73
Average Annual Impact on Output, Employment and Earnings Compared to Alternative A
(Recreation and Grazing Sectors)

	Alt B – Alt A	Alt C – Alt A	Alt D – Alt A	Alt E – Alt A	Alt F – Alt A
<i>Values</i>					
Output (\$ millions)	\$11.3	-\$222.4	\$34.1	\$34.1	-\$124.4
Employment	109	-2,177	331	331	-1,212
Earnings (\$ millions)	\$2.6	-\$62.7	\$7.9	\$7.9	-\$31.7
<i>Percentage of 2010 baseline values</i>					
Employment	0.04%	-0.70%	0.11%	0.11%	-0.39%
Earnings	0.02%	-0.24%	0.07%	0.07%	-0.19%

Source: Impacts are calculated using the IMPLAN model, as explained in the text and in **Appendix R**, Economic Impact Analysis Methodology. Percent of 2010 baseline is calculated from value of impacts and baseline information provided in **Section 3.22**, Social and Economic Conditions (Including Environmental Justice).

Note: Output and earnings values are in millions of year 2010 dollars.

employment affected by management impacts on grazing and recreation, these activities are expected to capture the substantial majority of the economic impact of the alternatives.

The analysis shows that reductions in economic output, employment and earnings would occur under Alternatives C and F. The reductions in Alternative C would correspond to approximately 0.7 percent of total 2010 employment and 0.2 percent of total earnings in the study area. Reductions in Alternative F would correspond to approximately 0.4 percent of 2010 employment and 0.2 percent of 2010 earnings in the study area.

In Alternative C, approximately half of the reductions would be due to reductions in recreation (55 percent of output, 54 percent of employment, and 45 percent of earnings reductions). The other half would result from reductions in livestock grazing. Impacts due to reduced recreation would be dispersed through the study area but could affect considerably counties such as Madison County in Montana and Blaine County in Idaho. These are the counties in which 25 percent or more of employment is associated with recreation-related industries, according to **Appendix Q**, Detailed Employment and Earnings Data. Impacts associated with grazing would occur throughout the study area, with concentrations in Cassia, Gooding, Jefferson, Lincoln, and Owyhee Counties in Idaho.

In Alternative F, most of the reductions would result from reductions in recreation (79 percent of output, 79 percent of employment, and 72 percent of earnings reductions), with the remaining reductions resulting from reductions in livestock grazing.

The analysis also shows that economic output, employment, and earnings would increase under Alternatives B, D, and E, as a result of annual growth in recreational visits and increases in non-motorized recreation.



Some differences among the alternatives could not be quantified. Among these are state and local tax revenues; however, tax revenues are largely tied to economic output and earnings, so the relative magnitude of impacts on local and state governments can be observed based on the information presented above.

4.15.4 Social Impacts

Impacts from Management Actions Affecting Migration

Population

The decrease in employment opportunities in the study area that would accompany Alternative C, from the adverse impacts on farming, corresponds to less than 0.7 percent of the current employment in the study area (Table 4-73). Because this loss in employment would be divided among livestock farming and recreation opportunities and would be distributed among a considerable number of counties in the study area, the BLM and Forest Service do not expect this change in employment to be sufficiently large to induce perceptible changes in population in any particular county, or to impact the capacity of counties in the study area to attract and retain its labor force, with implications for population growth. It is possible that, within counties, specific communities highly dependent on livestock farming or recreation could lose sufficient employment opportunities under Alternative C to affect their capacity to attract and retain labor, affecting in turn their population growth trends.

Housing and Public Services

Housing demand would not be affected in a substantial way by any of the alternatives. Under no alternative would employment opportunities be sufficiently increased to generate an inflow of new population to any specific county affecting housing demand in the communities capacity to provide the demand housing or the associated public services.

However, the abilities of counties to supply public services could be reduced, particularly in Alternatives C, in accordance with potential reductions in local tax revenues. State tax revenues would not be affected substantially, as documented in the section on fiscal conditions.

Impacts from Management Actions Affecting Specific Groups and Communities

Consistency with County Land Use Plans

The decision under consideration may result in amended BLM and Forest Service LUPs throughout the study area. BLM GRSG habitat mapping does not necessarily coincide with mapping made by counties (e.g., Custer County) due to differences in methodology. Also, the Custer County GRSG plan does not recognize livestock grazing as a threat to GRSG habitat. Under FLPMA, the BLM and Forest Service management plans and LUPs must be consistent with state and local LUPs to the extent possible within the context of other mandates of the BLM and Forest Service, and any amendments to be made would aim to maintain consistency to the degree possible. This would be the case under all alternatives.

Interest Groups and Communities of Place

As described in **Chapter 3**, there is a range of groups in the study area with overlapping and divergent interests. Groups centered on recreation, grazing, mining, land development, infrastructure development, business development, and conservation of natural resources would be impacted differently by the management alternatives. Within these interest groups, some could be particularly affected. Among the interest groups most likely to be affected by the choice of alternative are those associated with livestock grazing, wildlife conservation, and recreation – especially OHV users and people interested in more primitive recreational activities that could be compatible with GRSG habitat.

Specific communities will be impacted in different ways by the management alternatives. Communities with more diversified economies, and particularly those less dependent on grazing or recreation, would likely be less impacted than those that do depend heavily on grazing or recreation.

The BLM and Forest Service reviewed the scoping report and the notes from a regional economic strategies workshop to identify any comments related to specific communities that may be particularly affected by various management alternatives. Multiple commenters discussed concerns specific to the Magic Valley in Idaho and Twin Falls County, in particular. The commenters identified the importance of grazing for the local economy (BLM and Forest Service 2012). With respect to grazing management actions in other communities, one commenter requested that BLM consider maintaining livestock operations in the Jarbidge Planning Area (comment emc0158GB). Other comments stated that BLM needs to preserve customary agricultural use in Custer County (rmc0146GB, rmc0146GB, rmc0146GB) (BLM and Forest Service 2012).

One comment discussed the effect of recreation and travel management actions in northern Owyhee County, which includes areas that are popular for OHV recreation. These areas have already experienced road and trail closures, although they do not contain a large amount of Sage-Grouse habitat. Southern Owyhee County has more Sage-Grouse habitat and receives less OHV traffic; it has also had many roads closed to motor vehicles. The remaining roads and trails in the County are important to access cultural and historical sites (emc0124GB) (BLM and Forest Service 2012). Also regarding recreation, one local government participant expressed concerns specific to the recreation- and tourism-based economy in Blaine County, Idaho, stating that users will create trails if recreational demand is not satisfied by the County and that these user-created trails would not take GRSG habitat into account (BLM 2013d). Approximately 28 percent of employment in Blaine County depends on recreation-related industries, including retail trade; arts, entertainment, and recreation; and accommodation and food services (see **Appendix Q**, Detailed Employment and Earnings Data).

One scoping comment identified Clark County, Idaho, as a vulnerable area, explaining that 75 percent of the County is publicly owned. The commenter expressed concern that restrictions on use of BLM- and Forest Service-administered lands could have negative consequences for Clark County residents (emc0128GB) (BLM and Forest Service 2012).



Alternatives C and F would have the most adverse impacts on livestock farmers and motorized recreation throughout the study area. Although economic impacts would be most felt in those counties where these activities are a greater share of employment and earnings, individuals and interest groups associated with livestock farming and motorized recreation could be affected in all counties where GRSG habitat intersects with areas commonly used for these activities. In some communities (e.g., Caribou and Custer Counties, Idaho), Alternatives C and F could have adverse impacts through their effects on mining activities. Conservation interests and non-motorized recreation could benefit under these management alternatives. Communities would likely be impacted differently by each alternative, depending on the balance of economic activities and social values in each community.

Summary of Social Impacts

The BLM and Forest Service do not expect changes in employment in the study area under any of the alternatives to be sufficiently large to induce perceptible changes in population in any particular county. Similarly, no increased demand for housing or public services would be expected that could not be accommodated by current trends.

Communities with strong interest groups revolving around conservation and primitive recreational activities could experience benefits from Alternatives B, C, D, E, and F. Communities with strong interest groups focused on livestock grazing and motorized recreation would likely experience some adverse impacts from Alternatives B, D, and E, as a result of some management restrictions, but more substantial adverse impacts from Alternatives C and F.

4.15.5 Environmental Justice Impacts

The BLM and Forest Service considered information on the presence of minority and low-income populations (from **Chapter 3**) along with additional information, described in this section, to assess the potential for the alternatives to result in disproportionately high and adverse impacts on minority or low-income populations. Although conservation measures would be implemented consistently across all identified habitat, with no discrimination over particular populations, environmental justice guidance requires agencies to consider also whether their actions could unintentionally result in disproportionately high and adverse effects.

To help guide the analysis of potential environmental justice impacts, the BLM and Forest Service considered the information gathered in the Economic Strategies Workshop that was conducted in June 2012. That workshop was convened to identify public concerns related to potential social, economic and environmental justice impacts that could result from the management alternatives. The BLM and Forest Service also reviewed the scoping report for the present EIS to identify any comments related to environmental justice issues. None of the public comments received during that workshop or presented in the scoping report called out a specific concern related to minority populations (BLM and Forest Service 2012; BLM 2013d).

Potential Impacts on Minority Populations

As discussed in **Chapter 3**, CEQ guidance identifies a community or a specific population group as a minority population when either: (1) minorities in the affected area exceed 50 percent of the total population; or (2) the percentage of minorities in the affected area is meaningfully greater than the percentage in the general population or appropriate unit of geographical analysis. Based on the description of minority presence in the study area in **Chapter 3**, several counties have minority presence considerably above that of the state as a whole, including Clark County, Idaho, whose minority population is 42.9 percent of its total population; Minidoka County, Idaho (34.6 percent); and Power County, Idaho (34 percent). In total, 14 counties of the study area in Idaho (and neither of the counties in Montana) have a higher percentage of minority presence than the state as a whole. For the purposes of this LUPA/EIS, all 14 counties were considered minority populations. These counties are: Bingham, Blaine, Cassia, Clark, Elmore, Gooding, Jerome, Lincoln, Minidoka, Owyhee, Payette, Power, Twin Falls, and Washington Counties.

The extent to which existing minority populations are disproportionately impacted by high and adverse human health or environmental effects depends on the existence of high and adverse human health or environmental effects from management alternatives on any of the resources analyzed, and whether minority populations are particularly vulnerable to these impacts or more likely to be exposed to such impacts. Adverse impacts of alternatives were identified under the various resources analyzed and are described in their respective sections of **Chapter 4**. None of the alternatives could be considered to have a high and adverse impact on the study area as a whole.

The BLM and Forest Service considered the possibility that adverse impacts could be concentrated in few counties in the study area and could then constitute a high and adverse impact in those counties. As previously noted, losses of employment and earnings related to grazing would be particularly important for Cassia, Gooding, Jefferson, Lincoln, and Owyhee Counties, where over 20 percent of earnings are attributable to livestock farming. For the purposes of this LUPA/EIS, each of these counties is considered a minority population. If grazing impacts, particularly under Alternative C, were high and adverse in these counties, Alternative C would disproportionately impact minority populations. Employment impacted through grazing under Alternative C was estimated in 997 jobs. This represents about 2.5 percent of the total employment in these five counties. However, based on the intersection of GRSG habitat and the study area, grazing impacts would not likely be concentrated in these five counties alone and no disproportionately high and adverse impacts on these minority populations would occur.

One issue of potential concern relates to interests of Native American tribes. The planning area is within the traditional and/or historical use area of several tribes: see **Section 3.18**, Tribal Interests. Members of these hunt on federal lands outside of the boundaries of their reservations. Although hunting would be impacted in certain areas under some management Alternatives, the proposed management actions would not affect the overall tribes' ability to hunt in the study area and no disproportionately high and adverse impact would be expected.



Based on available information about the nature and geographic incidence of impacts, neither specific minority populations nor tribal populations would be expected to be exposed to disproportionately high and adverse impacts under any of the management alternatives considered.

Potential Impacts on Low-Income Populations

About half (15 of 29) of the counties in the study area have a concentration of low-income populations that exceeds the state average, as discussed in **Chapter 3**. These are: Bear Lake, Bingham, Butte, Camas, Cassia, Custer, Gem, Gooding, Jerome, Lemhi, Lincoln, Madison, Owyhee and Payette counties in Idaho, and Beaverhead in Montana. For the purpose of this LUPA/EIS, all these counties were considered low-income populations. It is also possible that there are smaller communities in the remaining counties that constitute low-income populations, given the large geographic spread of each county.

The extent to which low-income populations are disproportionately impacted by high and adverse human health or environmental effects depends on the existence of high and adverse human health or environmental effects from management alternatives on any of the resources analyzed, and whether low-income populations are specifically vulnerable to these impacts or more likely to be exposed to such impacts.

Similar to the analysis for minority populations, the BLM and Forest Service reviewed the impacts of alternatives described in the respective sections of **Chapter 4**. None of the alternatives could be considered to have a high and adverse impact on the study area as a whole. The BLM and Forest Service also considered the possibility that adverse impacts could be concentrated in few counties in the study area and could then constitute a high and adverse impact in those counties. As previously explained, the BLM and Forest Service found no evidence that impacts would be sufficiently concentrated in few counties to constitute high and adverse impacts. Based on available evidence, there would be no disproportionately high and adverse impacts on low income populations in the study area.

Table 4-74, Environmental Justice Impacts, provides a summary of the findings of this analysis with respect to disproportionately high and adverse effects of the alternatives.

Table 4-74
Environmental Justice Impacts

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Disproportionately high and adverse impacts on minority populations	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact
Disproportionately high and adverse impacts on low-income populations	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact

4.16 Cumulative Effects

This section presents the likely cumulative impacts on the human and natural environment that could occur from implementing the alternatives presented in **Chapter 2**. This section is organized by topic, similar to **Chapter 3**.

A cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. Cumulative impacts on the environment result from implementing any one of the Idaho and Southwestern Montana Greater Sage-Grouse LUPA/EIS alternatives, in combination with other federal, state, or private actions, either within or next to the planning area.

A cumulative impact analysis is required by CEQ regulations because environmental conditions result from many different factors that act together. The total effect of any single action cannot be determined by considering it in isolation; it must be determined by considering the likely result of that action in conjunction with many others. Evaluation of potential impacts considers incremental impacts that could occur from the proposed project, as well as impacts from past, present, and reasonably foreseeable future actions. Management actions could be influenced by activities and conditions on adjacent public and private lands beyond the planning area boundary; therefore, assessment data and information could span multiple scales, landownerships, and jurisdictions. These assessments involve determinations that often are complex and, to some degree, subjective.

4.16.1 Cumulative Analysis Methodology

The cumulative impacts discussion that follows considers the alternatives in the context of the broader human environment, specifically, actions that occur within and next to the geographic area covered by the planning area.

Because of the programmatic nature of the LUPA and cumulative assessment, the analysis of cumulative effects tends to be broad and generalized. Consequently, this assessment is primarily qualitative for most resources because of lack of detailed information that would result from project-level decisions and other activities or projects.

Quantitative information is used whenever available and as appropriate to portray the magnitude of an impact. The analysis assesses the magnitude of cumulative impacts by comparing the environment in its baseline condition with the expected impacts of the alternatives and other actions in the same geographic area. The magnitude of an impact is determined through a comparison of anticipated conditions against the naturally occurring baseline in the affected environment (see **Chapter 3**) or the long-term sustainability of a resource or social system.

The following factors were considered in this cumulative impact assessment:



- Federal, nonfederal, and private actions
- Potential for combined effects or interaction among or between effects
- Potential for effects across political and administrative boundaries
- Other spatial and temporal characteristics of each affected resource
- Comparative scale of cumulative impacts across alternatives

The geographic scope for the cumulative impact analysis may extend beyond the planning area boundary appropriate to the resource under consideration. For Special Status Species – Greater Sage-Grouse, the cumulative impact analysis includes an analysis at the WAFWA MZ level, in addition to the planning area analysis. WAFWA MZs are biologically based delineations that were determined by GRSG populations and subpopulations identified within seven floristic provinces. WAFWA MZs II and IV overlap the planning area and are included in the analysis. Analysis at this level enables the decision maker to understand the impacts on GRSG at a biologically meaningful scale.

This Draft EIS contains a quantitative cumulative effects analysis for GRSG habitat within the planning area boundary. At the larger WAFWA MZ level, the cumulative effects analysis for GRSG is primarily qualitative. Because the USFWS will make its decision in early 2015 about listing the GRSG, it is important that the BLM and Forest Service incorporate regulatory mechanisms to conserve the GRSG into their land use plans beforehand. Because of the timing of the listing decision, additional data and information to enable a comprehensive quantitative analysis will become available between the draft and final EIS stages for the LUPAs and revisions within the WAFWA MZs that overlap the planning area.

4.16.2 Past, Present, and Reasonably Foreseeable Future Actions

Past, present, and reasonably foreseeable future actions are considered in the analysis to identify whether and to what extent the environment has been degraded or enhanced BS whether ongoing activities are causing impacts. Also considered are trends for activities in and impacts on the area. Projects and activities are evaluated on the basis of proximity, connection to the same environmental systems, potential for subsequent impacts or activity, similar impacts, the likelihood a project will occur, and whether the project is reasonably foreseeable.

Projects and activities considered in the cumulative analysis were identified by BLM and Forest Service employees with knowledge of the area. Each was asked to provide information on the most influential past, present, or reasonably foreseeable future actions. Additional information was obtained through discussions with agency officials and a review of publicly available materials and websites.

Effects of past actions and activities are manifested in the current condition of the resources, as described in the affected environment (Chapter 3). Reasonably foreseeable future actions are those that have been committed to or known proposals that would take place within a 20-year planning period.

Reasonably foreseeable future action scenarios are projections made to predict future impacts; they are not actual planning decisions or resource commitments. Projections, which have been developed for analysis only, are based on current conditions and trends and represent a best professional estimate. Unforeseen changes in such factors as economics, demand, and federal, state, and local laws and policies could result in different outcomes than those projected in this analysis.

Other potential future actions have been considered and eliminated from further analysis because there is a small likelihood these actions would be pursued and implemented within the life of the plan or because so little is known about the potential action that formulating an analysis of impacts is premature.

In addition, potential future actions protective of the environment (such as new regulations related to fugitive dust emissions) have less likelihood of creating major environmental consequences alone, or in combination with this planning effort. Federal actions such as species listing would require the BLM and Forest Service to reconsider decisions created from this action. This is because the consultations and relative impacts might no longer be appropriate. These potential future actions may have greater capacity to affect resource uses within the planning area; however, until more information is developed, no reasonable estimation of impacts could be developed.

Data on the precise locations and overall extent of resources within the planning area are considerable, although the information varies according to resource type and locale. Furthermore, understanding of the impacts on and the interplay among these resources is evolving. As knowledge improves, management measures (adaptive or otherwise) would be considered to reduce potential cumulative impacts, in accordance with law, regulations, and current LUPs.

Projects and activities identified as having the greatest likelihood to generate potential cumulative impacts when added to the Idaho and Southwestern Montana Greater Sage-Grouse EIS/Plan Amendment alternatives are displayed in Table 4-75.



Table 4-75
Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
Lands and Realty					
Communication sites renewal – 2	Renewal of existing sites	Owyhee Field Office	Southwest Idaho	Less than 5 acres	Pending
Communication sites renewal – 2	Renewal of existing sites	Four Rivers Field Office	Unknown	No new surface disturbance	Pending
Communication site amendment - 1	Change 199-foot tower to 699-foot tower	Owyhee Field Office	Southwest Idaho	Over 15 acres	Pending
Communication site amendment - 1	Tower replacement	Four Rivers Field Office	Unknown	Less than 1 acre	Pending
Road ROW applications – 10	Construct new roads	Owyhee Field Office	Southwest Idaho	Unknown	Pending
Road ROW applications – 4	New applications for ROW on existing roads	Bruneau Field Office	Southwest Idaho	Less than 20 acres	Pending
Road ROW application – 3	New road application on existing roads	Four Rivers Field Office	Unknown	Less than 20 acres	Pending
Road ROW – renewals – 4	Renewal of existing ROW	Owyhee Field Office	Southwest Idaho	No new surface disturbance	Pending
Road ROW renewal – 1	Renewal of existing road	Four Rivers Field Office	Unknown	No new surface disturbance	Pending
Old Highway 37 Reroute Project	Move highway out of canyon and riparian corridor ½-mile east onto the upland, over a 5-mile stretch	Curlew National Grassland, 8 miles NW of Holbrook, ID	South Side Snake	5 miles	In the planning phase; DEIS expected in 2014
Oil and gas facility – 1	Expand existing facility	Owyhee Field Office	Southwest Idaho	Less than 2 acres	Pending
Oil and gas facility renewal – 1	Renewal of existing ROW	Bruneau Field Office	Southwest Idaho	No new surface disturbance	Pending
Oil and gas facility renewal – 2	Renewal of existing sites	Four Rivers Field Office	Weiser	No new surface disturbance	Pending

Table 4-75
Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
Oil and gas temporary use areas – 3	Temporary use for construction and maintenance	Four Rivers Field Office	Weiser	Less than 5 acres	Pending
Transmission line ROW application – 1	New transmission line	Bruneau Field Office	Southwest Idaho	Less than 5 acres	Pending
Transmission line ROW application – 1	New transmission line	Four Rivers Field Office	Unknown	Less than 15 acres	Pending
Hooper Springs Transmission Line	New transmission line	Soda Springs, Idaho	Southeast Idaho	No direct disturbance of PGH; if southern alternative is selected, line will be within a mile of PGH in Trail Creek/Slug Creek	FEIS 2013
Transmission line ROW renewals – 3	Renewal of existing lines	Owyhee Field Office	Southwest Idaho	No new surface disturbance	Pending
Transmission line ROW renewals – 12	Renewal of existing lines	Four Rivers Field Office	Unknown	No new surface disturbance	Pending
Transmission line ROW upgrade – 1	Add tap, upgrade line	Owyhee Field Office	Southwest Idaho	Less than 2 acres	Pending
Telephone line ROW renewals – 12	Renewal of existing ROW	Owyhee Field Office	Southwest Idaho	No new surface disturbance	Pending
Telephone line ROW renewals – 7	Renewal of existing lines	Four Rivers Field Office	Unknown	No new surface disturbance	Pending
Telephone line ROW renewal - 1	Renewal of existing ROW	Bruneau Field Office	Southwest Idaho	No new surface disturbance	Pending
Idaho Power - Smith's Prairie SUP renewal	Renewal of power line, which includes some new line and some new access roads	Mountain Home Ranger District – Boise National Forest	North Side Snake	5 miles	NEPA Decision in FY 2014; implementation in FY 2015

Table 4-75
Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
King-Moon-Wood River transmission line rebuild	Rebuild of 138 kV transmission line	Twin Falls District	North Side Snake	Unknown	Planning; projected build 2014-2016
Waterline ROW – 1	New buried water pipeline	Owyhee Field Office	Southwest Idaho	Less than 5 acres	Pending
Irrigation facility ditch ROW – 1	Renewal of existing ROW	Owyhee Field Office	Southwest Idaho	No new surface disturbance	Pending
Water facility ROW renewal – 8 (weirs)	Renewals of existing ROWs	Owyhee Field Office	Southwest Idaho	No new surface disturbance	Pending
Water facility ROW renewal – 2	Renewal of existing ROWs	Bruneau Field Office	Southwest Idaho	No new surface disturbance	Pending
Water facility ROW renewal – 1	Renewal of existing pipeline	Four Rivers Field Office	Unknown	Less than 1 acre	Pending
Water facility ROW amendment – 1	Include portions of canal on lands acquired by BLM	Four Rivers Field Office	Unknown	Less than 5 acres	Pending
Symbiotics LLC Hydro Facility	Hydro facility, including a transmission line, substation, dam, penstock, and upper reservoir	Dam located in Idaho, NE of Jackpot, Nevada, Twin Falls District	Southwest Idaho	110 acres	Feasibility study being conducted
New land use Authorizations	Approximately 40 ROW/authorizations/power lines, buried and overhead, roads, communication sites	Throughout PPH and PGH in the Dillon Field Office	Southwest Montana	Approximately 100 acres of disturbance. Associated with new ROW	Projected for 10 years based on previous last 5 years in LR2000
Leases/Permits – 3	Cabins and apiaries	Owyhee Field Office	Southwest Idaho	Less than 10 acres	Pending
Leases/Permits – 8	Agricultural and apiaries	Bruneau Field Office	Southwest Idaho	Less than 25 acres	Pending
Leases and Permits renewal – 3	Occupancy and Trespass Resolution	Four Rivers Field Office	Unknown	Less than 10 acres	Pending

Table 4-75
Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
Leases and Permits application – 8	Occupancy and Trespass Resolution	Four Rivers Field Office	Unknown	Less than 15 acres	Pending
Land Use Lease	Lease lands to resolve cabin encroachment on BLM-administered lands	Centennial Valley – PPH in the Dillon Field Office	Southwest Montana	5 acres total	Proposal stage
Owyhee land exchange	Land exchange with the state	Western portion of Owyhee County, Bruneau Field Office	Southwest Idaho	Proposing to dispose of approximately 33,000 acres of non-GRSG habitat and acquiring around 38,000 acres of primarily GRSG habitat	2015
Thompson Creek Mine land exchange	Increase public land acres through a land exchange within PPH	Challis Field Office, Idaho Falls District	Mountain Valleys	Unknown	Project under NEPA review; decision anticipated in 2014
Dairy Syncline land sale	Land sale and tailings pond construction; possible mitigation GRSG habitat land parcel in Stump Creek as exchange	Slug creek watershed, Idaho Falls District	East-Central Idaho	225 acres	Draft EIS to be released early 2015
Mackay Transfer Station land sale	Sale of land to Custer County for transfer station	T 7N, R 24E, Sec. 22, Idaho Falls District	Mountain Valleys	10 acres	Waiting for completed application from Custer County. Decision anticipated 2014.
Military training	From low-level up to high-altitude flights by military aircraft; military motor vehicle access to	Entire Bruneau Field Office and vehicles use roads and emitter sites on the Highway	Southwest Idaho	Unknown	Ongoing

Table 4-75
Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
	emitter sites and use at emitter sites.	51/Rowland Road area; military withdrawal site has relatively heavy use.			
F-35 A Operational Wing Bed Down EIS	Alternative in place to bed down the aircraft at the Mountain Home Air Force Base	Entire Bruneau Field Office	Southwest Idaho	Unknown	Proposed
F-35 A Training Wing Bed Down EIS	Alternative in place to bed down the aircraft at the Gowen Field Military Base	Entire Bruneau Field Office	Southwest Idaho	Unknown	Proposed
Idaho Power Integrated Resource Plan	Describes the company's projected need for additional electricity and the resources necessary to meet that need while balancing reliability, environmental responsibility, efficiency, and cost.	Entire sub-region	All GRSG population areas	None – planning effort	Completed June 2013
Rocky Mountain Power Integrated Resource Plan	Describes the company's projected need for additional electricity and the resources necessary to meet that need while balancing reliability, environmental responsibility, efficiency, and cost.	Entire sub-region	All GRSG population areas	None – planning effort	Completed April 2013

Table 4-75
Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
Major Realty Actions					
Gateway West 230/500 Transmission Line project	Authorize ROW for 1,100-mile 500-KV transmission line	Wyoming, Southern Idaho, Boise District, Curlew National Grassland, Idaho Falls District	Southwest Idaho, North Side Snake	1,100 miles	Pending; final EIS 2013 Scheduled for implementation starting 2016
Boardman to Hemingway	New transmission line	Owyhee Field Office	Southwest Idaho	Unknown	Pending
Fuels and Vegetation					
ARS South Mountain Juniper Management Study	Determine the effects of management-driven juniper treatments on the hydrology of four watersheds in the South Mountain Area, including snowpack distribution and drifts, after altering the canopy by removing juniper from the sagebrush-steppe ecosystem. Removal would be through prescribed burning.	South Mountain (T 9S, R 5W, Sect. 2, 3, 10, 11), Owyhee Field Office	Southwest Idaho	603 acres (357 BLM; 246 private)	Scoping complete; NEPA and ROD pending
ARS Reynolds Creek Experimental Watershed Prescribed Fire Research Plan	Study the effects of juniper encroachment and prescribed fire on soil-water balance. Treatments occurred through prescribed burning.	Reynolds Creek Experimental Watershed, Owyhee Field Office	Southwest Idaho	5,549 acres of public and private lands; acreage broken into four treatment areas	Three of the four treatment areas have been implemented as planned. The fourth (Johnson Draw) is pending. Due to

Table 4-75
Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
					topography, the treatment area may be adjusted.
Juniper Treatments in Pole Creek Allotment	Juniper removal to enhance resource conditions	Pole Creek Allotment, Owyhee Field Office	Southwest Idaho	24,486 acres of public, private, and state land	Decision issued; treatment implementation pending litigation
Juniper Treatment in Trout Springs Allotment	Juniper removal to enhance resource conditions	Trout Springs Allotment, Owyhee Field Office	Southwest Idaho	29,475 acres of public, private, and state lands	Planning; draft EA complete
Upper Castle Creek Fuels Project	Juniper control project on approximately 33,000 acres in the northwestern portion of Upper Castle Creek	Upper Castle Creek, Bruneau Field Office	Southwest Idaho	25,000 acres implemented; of the remaining areas to treat, 2,000-4,000 acres/year	Ongoing through 2014
Sage-Grouse Juniper	Juniper thinning	Boise District, Owyhee Field Office, Boise Field Office, Owyhee County	Southwest Idaho	1,500,000 acres	Draft EA
Pixley Basin	Juniper treatments (mechanical and prescribed fire)	Boise District, Boise Field Office, Owyhee County, South Oreana	Southwest Idaho	1,933 acres	Ongoing project
West Antelope	Juniper thinning	Boise District, Boise Field Office, Owyhee County	Southwest Idaho	287 acres	Ongoing project
Tex Creek Aspen Health Project	Remove encroaching junipers from within historic aspen clones	Tex Creek WMA east of Idaho Falls, Idaho, Idaho Falls District	East-Central Idaho	70 acres	NEPA is complete; implementation of the project began in 2012.

Table 4-75
Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
Patelzik Creek Aspen Health Project	Remove encroaching conifers from within historic aspen clones and thin remaining conifer stands	Medicine lodge management area within the northern portion of the Upper Snake Field Office, Idaho Falls District	Mountain Valleys	750 acres	NEPA started; implementation slated to begin in 2014
Cedar Butte Juniper Thinning	Remove encroaching junipers from within Wyoming sagebrush and thin remaining stands of juniper	Northern portion of the Big Desert management area west of Idaho Falls, Idaho, Idaho Falls District	North Side Snake	1,000 acres	Planning phase; project implementation anticipated in 2016
Deadman Juniper Thinning	Remove encroaching junipers from within Wyoming sagebrush and thin remaining stands of juniper	Northern portion of the Big Desert management area west of Idaho Falls, Idaho, Idaho Falls District	Mountain Valleys	1,000 acres	Planning phase I project implementation anticipated in 2015
Samaria Mountain Fuels Reduction and Restoration Project, Juniper Thinning	Remove encroaching junipers from within Wyoming sagebrush and thin remaining stands of juniper	Southeast Idaho, northern Utah, southwest Wyoming, 15 miles south of Samaria, Idaho, Idaho Falls District	Southwest Idaho	3,000 acres	NEPA complete; approximately 1,000 acres completed, remaining acres to be completed over next 7 years
Soda Hills Fuels Reduction and Restoration Project, Juniper and Douglas-Fir Thinning	Remove encroaching junipers and Douglas-fir from within Wyoming sagebrush and thin remaining stands of juniper and Douglas-fir	Southeast Idaho, Soda Springs area, Idaho Falls District	East-Central Idaho	3,000 acres	NEPA complete; approximately 1,500 acres completed, remaining acres to be completed over next 5 years
Crystal Springs/Toponce	Remove encroaching junipers and Douglas-fir	Southeast Idaho, 20 miles north of Lava	East-central Idaho	2,000 acres	Planning phase; project

Table 4-75
Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
Fuels Reduction and Restoration Project, Juniper and Douglas-Fir Thinning	from within Wyoming sagebrush and thin remaining stands of juniper and Douglas-fir	Hot Springs, Blackfoot River area, Idaho Falls District			implementation anticipated in 2014
South Stone Juniper Thinning Project	Remove encroaching junipers from within Wyoming sagebrush	Southeast Idaho, Idaho Falls District	South Side Snake	1,700 acres	In progress; approximately 600 acres completed
Juniper Town Site Juniper Thinning Project	Remove encroaching junipers from within Wyoming sagebrush	Southeast Idaho, Idaho Falls District	South Side Snake	700 Acres	Planning phase; project implementation anticipated in 2020
Curlew Fuel Breaks and Juniper Reduction Project	Compartmentalize the Curlew area using existing roads to improve wildfire suppression and reduce wildfire growth. Efforts will help to retain existing intact Wyoming sagebrush habitat. Remove encroaching junipers from within Wyoming sagebrush.	Southeast Idaho, north Utah, Idaho Falls District	South Side Snake	60,000 acres	Planning phase; project implementation anticipated in 2017
Bear Lake Fuels Reduction and Restoration Project	Remove encroaching junipers from within Wyoming sagebrush, improve and restore sagebrush habitat	Southeast Idaho, north Utah, Idaho Falls District	Bear Lake	30,000 acres	Planning phase; project implementation anticipated in 2020
Wolverine Fuels Reduction Project	Remove encroaching juniper and Douglas-fir	Southeast Idaho, Idaho Falls District	East-central Idaho	2,000 acres	Planning phase; project

Table 4-75
Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
	from within Wyoming sagebrush; improve and restore sagebrush habitat				implementation anticipated in 2021
Trapper Creek Vegetation Project	Reduce conifer encroachment in riparian areas, shrublands, and grasslands; increase the aspen component; slash and jackpot burn; broadcast burn	Wise River Ranger District, Beaverhead-Deerlodge National Forest	Southwest Montana	Approximately 3,200 acres total, less than 1,100 acres in PGH	Project withdrawn per litigation; NEPA supplements underway; ROD anticipated end of 2013
Sage-Grouse Habitat Improvement	Remove conifer from Phase I-II sagebrush habitat	Minidoka Ranger District, Cassia Division, Idaho, Sawtooth National Forest	South Side Snake	800 acres	Planned for 2018
Burley Landscape Sage-Grouse Habitat Restoration	Treat encroaching juniper on approximately 38,000 acres	Various locations throughout the Burley Field Office, Twin Falls District	South Side Snake	38,000	Approximately 8,500 acres already completed; implementation of remaining 29,500 acres expected over the next 7 years
Douglas-fir removal	Mechanically remove Douglas-fir in sagebrush habitat	Throughout PPH and PGH in the Dillon Field Office	Southwest Montana	Approximately 50 acres yearly	Complies with NEPA; ongoing
Bruneau Fuel Breaks Project	Fuel breaks, in the form of greenstrips and roadside mowing, will occur in the eastern portion of the Bruneau	11 allotments in Bruneau Field Office: Blackstone Center China Creek	Southwest Idaho	Treatments along 128 miles of roads; 2,836 acres of shrub modification	Project approved; awaiting completion of appeal period before beginning implementation

Table 4-75
Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
	Field Office. The projects may take 5 years to implement; maintenance is anticipated every 7-10 years.	Crab Creek East Canyon View Louse Creek Miller Table Seeding Northwest Owens Table Butte West Canyon View			
Paradigm Project	Fuel break project that would create up to 294 miles of fuel breaks between 50 and 300 feet wide over a 10-year period. Fuel breaks would be associated with roads and other linear disturbances. At the maximum width of 300 feet, up to 10,690 acres would be directly affected. Methods proposed to create fuel breaks include seeding with forage kochia or native/nonnative grass species, disking/bare ground, mechanical thinning and mowing, herbicides, targeted grazing, and prescribed burning.	Ada (eastern) and Elmore (western) Counties between Boise and Glenns Ferry, between the railroad and the base of the foothills (293,891 total acres), in Four Rivers Field Office	North Side Snake	2,111 acres of PPH and 24,667 acres of PGH in project area; five leks within the project boundary, two leks within 0.5 mile, and 17 leks within 10 miles; fuel breaks in PPH would be 50 feet on either side of road and in PGH would be 100 feet on either side of road; would affect 61 acres of sagebrush in PPH and 606 acres in PGH	Pending

Table 4-75
Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
Bruneau Mow	Fuel breaks	Boise District, Boise Field Office, Owyhee County, south of Bruneau	Southwest Idaho	130 miles	EA done in 2013; ready for treatments
South Owyhee Fuel Breaks	Fuel breaks	Boise District, Owyhee Field Office, Boise Field Office, Owyhee County	Southwest Idaho	2,000,000 acres, 850 miles	Draft EA
I-84	Fuel breaks	Boise District, Four Rivers Field Office, I-84 Oregon – Glens Ferry	North Side Snake	80 miles	Ongoing project
Curlew National Grassland Sagebrush Protection Project	Mechanical mowing of 314 acres of fuel breaks in strategic locations to protect existing stands of sagebrush from wildland fire	Curlew National Grassland	South Side Snake	314 acres	Decision completed; work started in 2012 and will continue through 2014 as funding allows
Curlew Sagebrush Protection Project Upgrade	Fuel break mowing	Westside Ranger District, Curlew Grasslands	South Side Snake	900 acres	Planned for 2017
Big Desert Fuel Breaks	Compartmentalize the Big Desert management area using existing roads to improve wildfire suppression and reduce wildfire growth; efforts will help to retain intact Wyoming sagebrush habitat within the	Big Desert Area in the southwest portion of the Upper Snake Field Office and the eastern portion of the Shoshone Field Office, Idaho Falls and Twin Falls Districts	North Side Snake	291 miles of existing desert roads with a footprint of 10,581 acres Upper Snake Field Office: 245 miles of roads with 8,908 footprint acres	NEPA is complete and project began in 2012 within the Upper Snake Field Office; those fuel breaks identified within the Shoshone Field Office require further analysis and

Table 4-75
Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
	northern portion of the management area			Shoshone Field Office: 46 miles of roads with 1,673 footprint acres	consultation before NEPA can be finalized.
Blackfoot River Fuel Breaks	Compartmentalize the Blackfoot River Corridor area using existing roads to improve wildfire suppression and reduce wildfire growth; efforts will help to retain existing intact Wyoming sagebrush habitat	Blackfoot River, 20 miles East of Blackfoot Idaho, Idaho Falls District	East-central Idaho	2,000 acres	Planning phase; project implementation anticipated in 2018
Minidoka Fuel Break	Maintenance treatments of forage kochia fuel breaks	Minidoka desert road network approximately 30 miles northeast of Burley, Idaho, Twin Falls District	North Side Snake	100-foot fuel breaks on each side of multiple roads for 28 miles; approximately 690 acre footprint	Fuel breaks were implemented in 2010 – 2012; maintenance actions are expected within the next 10 years to improve fuel break effectiveness.
Jarbridge Fuel Breaks	Implementation of self-sustaining fuel breaks using prescribed fire, herbicide, mechanical seedbed preparation, broadcast and drill seeding methods	Multiple locations along road corridors within the Jarbridge Field Office, Twin Falls District	South Side Snake	160 miles of 550-foot-wide fuel breaks along existing roads; approximately 10,499-acre footprint	Planned ROD in 2014; implementation is planned to cover a 5- to 10-year period
Pocatello Field Office Noxious Weed Control	Apply chemical treatments for noxious	BLM- and Forest Service-administered	Bear Lake	300 acres per year	Ongoing

Table 4-75
Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
	weed control	lands within Bear Lake County, Idaho, Idaho Falls District			
Challis Field Office weed treatments	Treating weeds across the field office with biological, chemical, and mechanical treatments	Challis Field Office	Mountain Valleys	1,000 acres per year	Ongoing
Big Desert Noxious Weed Treatments	Treating noxious weeds within the Big Desert management area	Big Desert Area in the southwest portion of the Upper Snake Field Office, Idaho Falls District	North Side Snake	Total landmass is 600,000 acres with an annual treatment target of 5,000 acres	NEPA is complete; project began in 2006
Eastside Sheeptrail Cheatgrass Treatment	Chemically reduce cheatgrass densities to modify fire return intervals and allow for seeded native species to become established	Eastern portion of the Big Desert management area west of Blackfoot, Idaho, Idaho Falls District	North Side Snake	2,000 acres	Planning phase; project implementation anticipated in 2016
Rock Corral Cheatgrass Treatment	Chemically reduce cheatgrass densities to modify fire return intervals and allow for seeded native species to become established	Eastern portion of the Big Desert management area west of Blackfoot, Idaho, Idaho Falls District	North Side Snake	2,000 acres	Planning phase; project implementation anticipated in 2018
Stage Road Cheatgrass Treatment	Chemically reduce cheatgrass densities to modify fire return intervals and allow for seeded native species to become established	Eastern portion of the Big Desert management area west of Blackfoot, Idaho, Idaho Falls District	North Side Snake	3,000 acres	Planning phase; project implementation anticipated in 2017

Table 4-75
Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
Salmon-Challis National Forest Forest-wide Invasive Plant Treatment EIS	Programmatic Noxious Weed Management EIS and ROD	Salmon-Challis National Forest	Mountain Valleys	Project area is nonwilderness portion of the Salmon-Challis National Forest (3.2 million acres)	NEPA anticipated to be completed by September 2014
Clear Creek Restoration	Treat cheatgrass-dominated site and restore to perennial grasses and shrubs	15 miles east of Almo, Idaho, Twin Falls District	South Side Snake	1,000 acres	Planned implementation within the next 3 years
Twin Falls District Noxious Weed and Invasive Plant Treatments	Proposed action is to use prevention, prescribed fire, herbicides, and manual, mechanical, and biological methods to treat areas dominated by annual invasive species to restore perennial grasses, forbs, and shrubs.	Various locations throughout the Shoshone, Jarbidge, and Burley Field Offices, Twin Falls District	South Side Snake	This is a programmatic planning effort. Estimated annual restoration is 5,000-10,000 acres in Burley, 10,000-15,000 acres in Shoshone, and 10,000-15,000 acres in Jarbidge. Ten-year total for each office could approach 100,000 acres in Burley, 150,000 acres in Shoshone, and 150,000 acres in Jarbidge.	Programmatic EA with planned ROD in 2014. Implementation is planned to cover 10 years starting in 2015.

Table 4-75
Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
Noxious weeds treatment	Treat noxious weeds across the Dillon Field Office	Throughout PPH and PGH in the Dillon Field Office	Southwest Montana	Approximately 1,500 acres yearly	Ongoing
Rock Creek Riparian Restoration Project	In association with the Old Highway 37 Reroute Project, once the highway is moved, remove road materials and restore hydrologic function to Rock Creek	Curlew National Grassland, 8 miles northwest of Holbrook, Idaho	South Side Snake	5 miles	In the planning phase; expected EA in 2014 once a decision is made on highway project (above)
Pocatello Field Office Seedling plantings	Seedling planting of sagebrush and antelope bitterbrush	BLM- and Forest Service-administered lands within Bear Lake County, Idaho, Idaho Falls District	Bear Lake	20 acres per year	Ongoing, includes Fish and Game habitat restoration projects
Pocatello Field Office Curlew Seedling plantings	Seedling planting of sagebrush and antelope bitterbrush	BLM- and Forest Service-administered lands within Oneida County, Idaho – Curlew and South Stone areas, Idaho Falls District	South Side Snake	20 acres per year	Ongoing, includes Fish and Game habitat restoration projects
Pahsimeroi Sagebrush Restoration	Treating sagebrush with Lawson aerator and seeding native herbaceous species	West River Flat Pasture of the Upper Pahsimeroi Allotment, Challis Field Office, Idaho Falls District	Mountain Valleys	700 acres	Project under NEPA review; decision date anticipated in 2014
Buckwalter Sage-Grouse Habitat Project	Treating sagebrush cover to increase herbaceous cover to site potential	T 8N., R 23E., Sec. 36, Challis Field Office, Idaho Falls District	Mountain Valleys	Up to 640 acres	Project under NEPA review; decision date anticipated in 2014

Table 4-75
Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
Pocatello Shrub Planting Programmatic EA	Reintroduction of shrub species through hand planting of seedlings	Various locations throughout southeast Idaho, Idaho Falls District	Bear Lake, South Side Snake, east-central Idaho	Up to 500 acres annually	NEPA complete; implementation has been occurring since 2011 and is expected to continue for next 5-10 years.
Burley Shrub Planting	Reintroduction of shrub species through hand planting of seedlings; up to 150,000 seedlings may be planted annually.	Various locations throughout the Burley Field Office, Twin Falls District	South Side Snake	Up to approximately 8,000 acres annually	Implementation has been occurring since 2010 and is expected to continue over the next 7-10 years.
Jarbridge Shrub Planting	Reintroduction of shrub species through hand planting of seedlings; up to 50,000 seedlings may be planted annually.	Various locations throughout the Jarbridge Field Office, Twin Falls District	South Side Snake	Up to approximately 5,000 acres annually	Implementation has been occurring since 2012 and is expected to continue over the next 10 years.
Twin Falls District Wildlife Tracts Restoration	Proposed action is to use prescribed fire, chemical, drill and harrow seeding, shrub seeding, and plantings to establish perennial vegetation and restore native shrub habitat on wildlife tracts.	Multiple wildlife tracts throughout the Shoshone, Burley, and Jarbridge Field Offices, Twin Falls District	South Side Snake	500-1,000 acres per year, for a cumulative total of 10,000 acres over ten years	Implementation has been occurring since 2011 and is planned to continue over the next 8 years.
Upper Horse Prairie Crested Wheatgrass Sagebrush Restoration	Reseeding crested wheatgrass with native grasses and forbs	Upper Horse Prairie watershed in the Dillon Field Office	Southwest Montana	500 acres total over the life of the RMP	NEPA completed 2012, anticipate implementation beginning in 2014

Table 4-75
Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
Sublett Prescribed Fire - Aspen	Prescribed fire in aspen; sagebrush surrounds the project	Minidoka Ranger District, Sublett Division, Idaho, Sawtooth National Forest	South Side Snake	1,000 acres	Planned for 2014
Jeff Creek Prescribed Burn	Prescribed fire	Challis-Yankee Fork Ranger District, Salmon-Challis National Forest	Mountain Valleys	4,035-acre project area; 90 acres of project area in GRSG habitat but not planning to burn in this area	Planned for 2014
Prescribed Fire	Used prescribed fire to restore sagebrush habitat by removing Douglas-fir colonization	Throughout PPH and PGH in the Dillon Field Office	Southwest Montana	Approximately 600 acres yearly	NEPA compliant and ongoing
Woodcutting Permits	Woodcutting permits would continue to be issued. Each permit allows a minimum of 10 cords and a maximum of 20 cords to be purchased. Stipulations regarding distance from perennial streams, diameter of trees, and distance from paved roads are included.	Within the Owyhee Field Office jurisdiction. Cutting in Wilderness areas, ACECs, Mud Flat Scenic By-Way, a corridor to Silver City, and within rock outcroppings is not allowed.	Southwest Idaho	Unknown	Permitting process is approved and being implemented.
Range					
Permit Renewals	Will complete environmental assessments before	Allotments: Owens, East Castle Creek, Battle Creek, Big	Southwest Idaho	Unknown	Ongoing

Table 4-75
Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
	making decisions regarding grazing permit renewals	Springs, Bruneau Canyon, in Bruneau Field Office			
Grazing Permit Renewals	Renewing/modifying 2 to 5 grazing permits per year for the next ten years	Challis Field Office	Mountain Valleys	770,000 acres	Project under NEPA review; decision dates 2014-2024
North Little Camas Allotment	Range NEPA for on-off C&H allotment	Mountain Home Ranger District – Boise National Forest	North Side Snake	1,377 acres	NEPA decision in FY 2014
South Little Camas Allotment	Range NEPA for on-off C&H allotment	Mountain Home Ranger District – Boise National Forest	North Side Snake	1,790 acres	NEPA decision in FY 2014
Bennett Mountain Allotment	Range NEPA for C&H allotment	Mountain Home Ranger District – Boise National Forest	North Side Snake	7,076 acres	Planned within the next 10 years
Dixie Allotment	Range NEPA for C&H allotment	Mountain Home Ranger District – Boise National Forest	North Side Snake	20,046 acres	Planned within the next 10 years
Granite Allotment	Range NEPA for S&G allotment	Mountain Home Ranger District – Boise National Forest	North Side Snake	6,351 acres	Planned within the next 10 years
Lake Creek Allotment	Range NEPA for C&H allotment	Mountain Home Ranger District – Boise National Forest	North Side Snake	3,147 acres	Planned within the next 10 years
Mennecke Creek Allotment	Range NEPA for C&H allotment	Mountain Home Ranger District – Boise National Forest	North Side Snake	13,272 acres	Planned within the next 10 years
Almo Park C&H Allotment	Cattle allotment management plan (AMP) update	Minidoka Ranger District, Albion Division, Idaho,	South Side Snake	11,990 acres	2015

Table 4-75
Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
		Sawtooth National Forest			
Conner Creek C&H Allotment	Cattle allotment AMP renewal	Minidoka Ranger District, Albion Division, Idaho, Sawtooth National Forest	South Side Snake	5,609 acres	2015
Goose Creek C&H Allotment	Cattle allotment AMP renewal	Minidoka Ranger District, Cassia Division, Idaho, Sawtooth National Forest	South Side Snake	66,872 acres	2014
Oakley Valley C&H Allotment	Cattle allotment AMP renewal	Minidoka Ranger District, Cassia Division, Idaho, Sawtooth National Forest	South Side Snake	30,674 acres	2018
Coal Pit C&H Allotment	Cattle allotment AMP renewal	Minidoka Ranger District, Cassia Division, Idaho, Sawtooth National Forest	South Side Snake	32,454 acres	2018
Big Hollow C&H Allotment	Cattle allotment AMP renewal	Minidoka Ranger District, Cassia Division, Idaho, Sawtooth National Forest	South Side Snake	7,958 acres	2018
Third Fork S&G Allotment	Sheep allotment AMP renewal	Minidoka Ranger District, Cassia Division, Idaho,	South Side Snake	9,041 acres	2018

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Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
		Sawtooth National Forest			
Buckbrush S&G Allotment	Sheep allotment AMP renewal	Minidoka Ranger District, Cassia Division, Idaho, Sawtooth National Forest	South Side Snake	19,937 acres	2018
Little Fork S&G Allotment	Sheep allotment AMP renewal	Minidoka Ranger District, Cassia Division, Idaho, Sawtooth National Forest	South Side Snake	5,360 acres	2018
Deadline S&G Allotment	Sheep allotment AMP renewal	Minidoka Ranger District, Cassia Division, Idaho, Sawtooth National Forest	South Side Snake	8,625 acres	2018
Little Piney S&G Allotment	Sheep allotment AMP renewal	Minidoka Ranger District, Cassia Division, Idaho, Sawtooth National Forest	South Side Snake	7,658 acres	2018
Trout Creek S&G Allotment	Sheep allotment AMP renewal	Minidoka Ranger District, Cassia Division, Idaho, Sawtooth National Forest	South Side Snake	10,261 acres	2018
Badger S&G Allotment	Sheep allotment AMP renewal	Minidoka Ranger District, Cassia Division, Idaho,	South Side Snake	7,535 acres	2018

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Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
		Sawtooth National Forest			
Trapper Creek S&G Allotment	Sheep allotment AMP renewal	Minidoka Ranger District, Cassia Division, Idaho, Sawtooth National Forest	South Side Snake	11,403 acres	2018
Ridgeline C&H Allotment	Cattle allotment AMP renewal	Minidoka Ranger District, Cassia Division, Idaho, Sawtooth National Forest	South Side Snake	9,583 acres	2018
Fall-Swamy C&H Allotment	Cattle allotment AMP renewal	Minidoka Ranger District, Cassia Division, Idaho, Sawtooth National Forest	South Side Snake	Unknown	2018
Albion C&H Allotment	Cattle allotment AMP renewal	Minidoka Ranger District, Albion Division, Idaho, Sawtooth National Forest	South Side Snake	11,991 acres	2015
Barnes Canyon C&H Allotment	Cattle allotment AMP renewal	Minidoka Ranger District, Raft River Division, Utah, Sawtooth National Forest	South Side Snake	2,841 acres	2016
Basin C&H Allotment	Cattle allotment AMP renewal	Minidoka Ranger District, Albion Division, Idaho,	South Side Snake	8,220 acres	2015

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Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
		Sawtooth National Forest			
Cross Creek C&H Allotment	Cattle allotment AMP renewal	Minidoka Ranger District, Albion Division, Idaho, Sawtooth National Forest	South Side Snake	322 acres	2015
East End C&H Allotment	Cattle allotment AMP renewal	Minidoka Ranger District, Raft River Division, Utah, Sawtooth National Forest	South Side Snake	7,777 acres	2016
East Park Valley C&H Allotment	Cattle allotment AMP renewal	Minidoka Ranger District, Raft River Division, Utah, Sawtooth National Forest	South Side Snake	1,625 acres	2021
Elba C&H Allotment	Cattle allotment AMP renewal	Minidoka Ranger District, Albion Division, Idaho, Sawtooth National Forest	South Side Snake	19,488 acres	2015
Land Creek C&H Allotment	Cattle allotment AMP renewal	Minidoka Ranger District, Albion Division, Idaho, Sawtooth National Forest	South Side Snake	2,017 acres	2015
Pine Hollow C&H Allotment	Cattle allotment AMP renewal	Minidoka Ranger District, Albion Division, Idaho,	South Side Snake	340 acres	2015

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Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
		Sawtooth National Forest			
Pothole/Bedke C&H Allotment	Cattle allotment AMP renewal	Minidoka Ranger District, Albion Division, Idaho, Sawtooth National Forest	South Side Snake	3,744 acres	2015
Rosette C&H Allotment	Cattle allotment AMP renewal	Minidoka Ranger District, Raft River Division, Utah, Sawtooth National Forest	South Side Snake	11,503 acres	2016
West Park Valley C&H Allotment	Cattle allotment AMP renewal	Minidoka Ranger District, Raft River Division, Utah, Sawtooth National Forest	South Side Snake	3,942 acres	2021
Willow Creek C&H Allotment	Cattle allotment AMP renewal	Minidoka Ranger District, Albion Division, Idaho, Sawtooth National Forest	South Side Snake	18,854 acres	2015
Clear Creek C&H Allotment	Cattle allotment AMP renewal	Minidoka Ranger District, Raft River Division, Utah, Sawtooth National Forest	South Side Snake	10,237 acres	2016
Clark's Basin S&G	Sheep allotment AMP renewal	Minidoka Ranger District, Raft River Division, Utah,	South Side Snake	8,499 acres	2021

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Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
		Sawtooth National Forest			
East Dry Pole S&G Allotment	Sheep allotment AMP renewal	Minidoka Ranger District, Black Pine Division, Idaho, Sawtooth NF	South Side Snake	9,571 acres	2017
Walters Creek	Cattle allotment AMP update	Minidoka Ranger District, Albion Division, Idaho, Sawtooth National Forest	South Side Snake	1,062 acres	2015
Deer Creek/Curran S&G Allotment	Sheep allotment AMP renewal	Ketchum Ranger District, Idaho, Sawtooth National Forest	North Side Snake	21,119 acres	2022
Greenhorn – Kelly Mountain C&H Allotment	Cattle allotment AMP renewal	Ketchum Ranger District, Idaho, Sawtooth National Forest	North Side Snake	6,880 acres	2013
Cove Creek S&G Allotment	Sheep allotment AMP renewal	Ketchum Ranger District, Idaho, Sawtooth National Forest	North Side Snake	8,942 acres	2020
Williams Creek C&H	Cattle allotment AMP renewal	Sawtooth NRA, Idaho, Sawtooth National Forest	Sawtooth	466 acres	2021
Soldier C&H Allotment	Cattle allotment AMP renewal	Fairfield Ranger District, Idaho, Sawtooth National Forest	North Side Snake	23,406 acres	2021

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Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
Bremner-Middle Fork S&G Allotment	Sheep allotment AMP renewal	Fairfield Ranger District, Idaho, Sawtooth National Forest	North Side Snake	17,207 acres	2016
Hunter Creek C&H Allotment	Cattle allotment AMP renewal	Fairfield Ranger District, Idaho, Sawtooth National Forest	North Side Snake	4,973 acres	2017
Wardrop C&H Allotment	Cattle allotment AMP renewal	Fairfield Ranger District, Idaho, Sawtooth National Forest	North Side Snake	10,383 acres	2021
Corral Creek S&G Allotment	Sheep allotment AMP renewal	Fairfield Ranger District, Idaho, Sawtooth National Forest	North Side Snake	4,014 acres	2018
North Fork Lime Creek S&G Allotment	Sheep allotment AMP renewal	Fairfield Ranger District, Idaho, Sawtooth National Forest	North Side Snake	15,145 acres	2016
Deer Creek C&H Allotment	Cattle allotment AMP renewal	Fairfield Ranger District, Idaho, Sawtooth National Forest	North Side Snake	1,225 acres	2020
Sheep Basin C&H Allotment	Cattle allotment AMP renewal	Fairfield Ranger District, Idaho, Sawtooth National Forest	North Side Snake	7,068 acres	2017
Cherry Creek S&G Allotment	Sheep allotment AMP renewal	Fairfield Ranger District, Idaho,	North Side Snake	2,461 acres	2020

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Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
		Sawtooth National Forest			
Willow C&H Allotment	Cattle allotment AMP renewal	Fairfield Ranger District, Idaho, Sawtooth National Forest	North Side Snake	18,554 acres	2021
Spud and Marco Creek Allotments	Grazing Allotment Management NEPA	Challis-Yankee Fork Ranger District, Salmon-Challis National Forest	Mountain Valleys	7,131 acres	Decision planned in 1 year
Antelope Grazing Management Project	Grazing Allotment Management NEPA	Lost River Ranger District, Salmon-Challis National Forest	Mountain Valleys	49,269 acres	Decision planned in 1 year
Morgan Creek Allotment and Sleeping Deer Unit of Eddy Creek	Grazing Allotment Management NEPA	Challis-Yankee Fork Ranger District, Salmon-Challis National Forest	Mountain Valleys	44, 050 acres	Decision planned in 2 years
Lee Creek to Cove Creek Allotments	Grazing Allotment Management NEPA	Leadore Ranger District, Salmon-Challis National Forest	Mountain Valleys	71,826 acres	Decision planned in 2 years
Pahsimeroi and Upper Pahsimeroi Allotments (3)	Grazing Allotment Management NEPA	Challis-Yankee Fork Ranger District, Salmon-Challis National Forest	Mountain Valleys	75,159 acres	Decision planned in 3-4 years
Gilmore to Nez Perce Allotments	Grazing Allotment Management NEPA	Leadore Ranger District, Salmon-Challis National Forest	Mountain Valleys	27,414 acres	Decision planned in 3-4 years

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Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
Sandy to Agency and Twelvemile	Grazing Allotment Management NEPA	Leadore and Salmon-Cobalt Ranger Districts, Salmon-Challis National Forest	Mountain Valleys	44,790 acres	Decision planned in 3-4 years
Hawley Creek Allotment	Grazing Allotment Management NEPA	Leadore Ranger District, Salmon-Challis National Forest	Mountain Valleys	31,472 acres	Decision planned in 3-4 years
Pass Creek Allotment	Grazing Allotment Management NEPA	Lost River Ranger District, Salmon-Challis National Forest	Mountain Valleys	43,412 acres	Decision planned in 4 years
Little Lost Allotments	Grazing Allotment Management NEPA	Lost River Ranger District, Salmon-Challis National Forest	Mountain Valleys	129,312 acres	Decision planned in 4 years
Upper Salmon Allotments	Grazing Allotment Management NEPA	Challis-Yankee Fork Ranger District, Salmon-Challis National Forest	Mountain Valleys	217,150 acres	Decision planned in 4-5 years
Hayden Allotments (up to 3)	Grazing Allotment Management NEPA	Leadore Ranger District, Salmon-Challis National Forest	Mountain Valleys	63,575 acres	Decision planned in 4-5 years
North Fork Allotments	Grazing Allotment Management NEPA	North Fork Ranger District, Salmon-Challis National Forest	Mountain Valleys	116, 254 acres	Decision planned in 4-5 years

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Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
Middle Salmon Allotments	Grazing Allotment Management NEPA	Salmon-Cobalt Ranger District, Salmon-Challis National Forest	Mountain Valleys	98,343 acres	Decision planned in 4-5 years
Various Sheep Allotments	Grazing Allotment Management NEPA	Lost River and Middle Fork Ranger Districts, Salmon-Challis National Forest	Mountain Valleys	56,226 acres	Decision within the reasonably foreseeable time frame (by 2023)
White Knob Cattle Allotments	Grazing Allotment Management NEPA	Lost River Ranger District, Salmon-Challis National Forest	Mountain Valleys	54,997 acres	Decision possible within the reasonably foreseeable time frame (by 2023)
Little Eightmile and Grizzly Hill	Grazing Allotment Management NEPA	Leadore Ranger District, Salmon-Challis National Forest	Mountain Valleys	46,086 acres	Decision possible within the reasonably foreseeable time frame (by 2023)
Middle Fork Allotments	Grazing Allotment Management NEPA	Middle Fork Ranger District, Salmon-Challis National Forest	Mountain Valleys	52,905 acres	Decision possible within the reasonably foreseeable time frame (by 2023)
Pioneer Cattle Allotments	Grazing Allotment Management NEPA	Lost River Ranger District, Salmon-Challis National Forest	Mountain Valleys	246,179 acres	Decision planned in 5-6 years
Lost River Allotments	Grazing Allotment Management NEPA	Lost River Ranger District, Salmon-Challis National Forest	Mountain Valleys	113,122 acres	Decision planned in 4-7 years
Lemhi/Salmon Allotments	Grazing Allotment Management NEPA	Leadore Ranger District, Salmon-	Mountain Valleys	52,661 acres	Decision planned in 6-10 years

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Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
		Challis National Forest			
North Lost River Allotments	Grazing Allotment Management NEPA	Challis-Yankee Fork Ranger District, Salmon-Challis National Forest	Mountain Valleys	71,492 acres	Decision planned in 6-10 years
Lower Salmon/Panther Allotments	Grazing Allotment Management NEPA	Salmon-Cobalt Ranger District, Salmon-Challis National Forest	Mountain Valleys	297,730 acres	Decision planned in 8-10 years
NW Lemhi Allotments	Grazing Allotment Management NEPA	Challis-Yankee Fork Ranger District, Salmon-Challis National Forest	Mountain Valleys	57,782 acres	Decision planned in 8-10 years
Kelly Canyon-Indian Creek Grazing Analysis Project	Grazing re-authorization	Dubois Ranger District	Mountain Valleys	53,220 acres	Planned for 2018
South Soda Sheep AMP revisions	Grazing re-authorization	Soda Spring Ranger District	East-Central Idaho	132,000 acres	Planned for 2016
NW Big Hole AMP Revision	Cattle allotment management plan revision (7 cattle allotments)	Wisdom Ranger District, Beaverhead-Deerlodge National Forest	Southwest Montana, Wisdom sub-population (P37)	4 allotments overlapping less than 80 acres of PGH	NEPA underway; ROD in late 2013 or early 2014
Cessation Lima-Tendoy Sheep Grazing	Indian Creek and Bear Canyon Allotments	Dillon Ranger District, Beaverhead-Deerlodge National Forest	Southwest Montana, Red Rocks sub-population (P24)	11,700 acres in PPH	Permittee waiving sheep permits back to Forest Service (pending receipt of waiver of term grazing permit-2013). Allotments will be

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Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
					closed to future domestic sheep grazing. No new grazing permits for any livestock will be issued for Indian Creek. Three-year trial of 100 AUMs fall cattle grazing for Bear Canyon. NEPA review and new AMP after 2015 grazing season
Range Improvement Construction	Construction or maintenance of fencing (allotment boundary, pasture or enclosure fencing), water developments (water hauls, pipelines and troughs)	Owyhee Field Office jurisdiction.	Southwest Idaho	Approximately 25 miles of new fence to be constructed; approximately 5 miles of pipelines and associated troughs; approximately 30 water haul sites	Various; projects either waiting for available funding or in the planning stages; maintenance of existing projects is ongoing
Range Water Developments	40 new spring developments and associated pipeline and drinkers	Throughout PPH and PGH in the Dillon Field Office	Southwest Montana	20 miles of pipeline estimated 20 acres disturbance.	NEPA compliant and ongoing
Fence Removal	Removal of approximately 5 miles of old fences yearly	Throughout PPH and PGH in the Dillon Field Office	Southwest Montana	50 miles removed in next ten years	Ongoing

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Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
New Fence Construction	Approximately 5 miles of new fence construction per year	Throughout PPH and PGH in the Dillon Field Office	Southwest Montana	50 miles of new fence in the next ten years	NEPA compliant and ongoing
Pocatello Field Office – Fence Flagging	Install GRSG fence reflectors	BLM- and Forest Service-administered lands throughout southeast Idaho, Pocatello Field Office	Bear Lake, South Side Snake	10 miles per year	Ongoing
Grouse Creek Fences	Construct 1 mile of fence to protect 2 springs and ½ mile of Sulphur Creek	Section 30, T13N, R23E; Section 13, T.14N., R.21E., W½SW¼, Challis Field Office, Idaho Falls District	Mountain Valleys	1 mile	NEPA completed; construction in 2014
Upper Pahsimeroi/Burnt Creek Fences	Construct 2.5 miles of fence	at T.10N., R.24E; Challis Field Office, Idaho Falls District	Mountain Valleys	2.5 miles	Project under NEPA review, decision date anticipated 2014
Rock Springs Pipeline Extension Reconstruct with Two New Troughs	Extending an existing pipeline 4 miles and adding two additional troughs	T.13N., R.22E., Section 27 E½ and the other in T.13N., R.22E., Section 15 SE¼SW¼, Challis Field Office, Idaho Falls District	Mountain Valleys	4 miles, 1.4 acres of disturbance	NEPA completed; construction in 2014
Rattlesnake Pipeline	Reconstruct Rattlesnake Pipeline, which includes 3 troughs	Sections 30 and 19 of T.13N., R.22E, Challis Field Office, Idaho Falls District	Mountain Valleys	1.5 miles	NEPA completed; construction in 2014
Upper Pahsimeroi/Burnt	Construct additional water sources within the	T. 10N., R.24E; T.11N., R.23E., sec.	Mountain Valleys	2.5 miles	Project under NEPA review; decision date

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Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
Creek Pipeline	Burnt Creek and Upper Pahsimeroi Allotments	10 NW ¹ / ₄ SE ¹ / ₄ , Challis Field Office, Idaho Falls District			anticipated in 2014
Upper Pahsimeroi/Burnt Creek Troughs	Adding three additional troughs in the Burnt Creek and Upper Pahsimeroi Allotments	T.10N.,R.24E.; T.11N., R.23E., sec. 10 NW ¹ / ₄ SE ¹ / ₄ , Challis Field Office, Idaho Falls District	Mountain Valleys	2.1 acres	Project under NEPA review; decision date anticipated in 2014
Mill Creek Reconnect Project	To reconnect Mill Creek to Big Creek; this would involve public and private lands to restore the historic channel alignment of Mill Creek.	T.14N.,R.23E. Sec. 35; T. 13N.,R.23E., Sec. 2, Challis Field Office, Idaho Falls District	Mountain Valleys	640 acres, 3 miles of stream	Project under NEPA review; decision date anticipated in 2014
Spring Hill Spring Restoration	Fence springs and move troughs to uplands; CE or EA	Challis-Yankee Fork Ranger District-Pahsimeroi allotment, Salmon-Challis National Forest	Mountain Valleys	Approximately 10 acres	Planning stage, but implementation likely in 2014
Lost River Small Batch Fences	Road/Ramey, North Fork, and Kane Lake Fences to manage livestock	Lost River Ranger District - 30 miles west of Mackay, Idaho, Salmon-Challis National Forest	Mountain Valleys	1.25 miles	Environmental analysis ongoing; ROD 2014
Warm Creek Habitat Improvement Fence	Fence to keep cattle off Warm Creek	Lost River Ranger District - on Warm Creek at mouth of Sawmill Canyon, Salmon-Challis National Forest	Mountain Valleys	0.25 miles	Environmental analysis ongoing; ROD 2013

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Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
Mud Lake Fence Modification	Convert electric fence to permanent with slight adjustment in location	Lost River Ranger District - Pass Creek, Salmon-Challis National Forest	Mountain Valleys	3 miles	Environmental analysis anticipated in 2015
Copper Basin Swamps Troughs	Add one to two troughs to pipeline in Swamps pasture of Copper Basin Allotment	Lost River Ranger District - Copper Basin, Salmon-Challis National Forest	Mountain Valleys	600 acres	Environmental analysis anticipated in 2015
Bell Mountain Trough Extension	Add one trough to pipeline on Bell Mountain Allotment	Lost River Ranger District - Bell Mountain, Salmon-Challis National Forest	Mountain Valleys	300 acres	Environmental analysis anticipated in 2015
Boone Creek Pond to Trough Conversions	Convert up to 10 ponds to troughs and fence off spring sources for wildlife habitat on Boone Creek Allotment	Lost River Ranger District - Boone Creek Allotment, Salmon-Challis National Forest	Mountain Valleys	1,200 acres	Environmental analysis anticipated in 2014
Bellas Drift Fence	Drift fence to keep cattle from accessing Bellas Lakes	Lost River Ranger District - Bellas Canyon, Salmon-Challis National Forest	Mountain Valleys	¼ mile	Environmental analysis anticipated in 2015
Minerals					
Locatable Minerals	There are currently no outstanding mining notices or plans of operations that have not been processed. There are 13 notices on file, five of	Within the Owyhee Field Office jurisdiction	Southwest Idaho	Unknown; there is no way to accurately determine the level of activity that will occur in the future.	The number of notices will decrease or increase to match the price of precious metals. Placer dredge mining is permitted

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Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
	which are expired for various reasons. Three of the notices are being closed, either because no further activity will be performed, or they are being replaced by a mining plan of operations.				throughout Idaho. Activity in this area will continue to increase as precious metal prices increase.
Western Standard Metals - Almaden Exploration Mining Notice Revision	IDI-37044 Addition of 16 drill sites requiring approximately 4,270 linear feet of constructed roads and approximately 350 linear feet of overland travel for mineral exploration.	Boise Meridian, T. 10 N., R. 3 W., Sections 4 & 5 and T. 11 N., R. 3 W., Section 32 in Washington County, Idaho, Four Rivers Field Office	Weiser	Approximately 3.74 acres	Authorization of this revised notice activity is pending receipt and acceptance of required additional reclamation bond.
Western Standard Metals - Nutmeg Mountain Exploration Mining Notice	IDI-37444 Proposed construction of nine drill sites and 8,455 linear feet of new road for condemnation drilling.	Boise Meridian, T. 10 N., R. 3 W, Sections 3 & 4, and T. 11 N., R. 3 W., Section 33 in Washington County, Idaho, Four Rivers Field Office	Weiser	Approximately 4.21 acres	Authorization of this mining notice is pending receipt and acceptance of required reclamation bond.
Sawtooth #4 Plan of Operation Modification	Locatable mineral surface mining	Middle Mountain, West of Elba, Idaho, Twin Falls District T 14 S R 22 E Section 34	South Side Snake	20 acres	NEPA in progress

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Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
Mineral Extraction	Approximately 25 notices	Throughout PPH and PGH in the Dillon Field Office	Southwest Montana	Less than 50 acres	Ongoing
Otis Gold Exploratory Drilling Notice of Intent	Exploratory drilling	South of Oakley, Idaho, Twin Falls District T 16 S R 22 E Section 20	South Side Snake	1 acre	Pending
Prudent Man Mining	Hand excavations	Lost River Ranger District-Alder Creek, Salmon-Challis National Forest	Mountain Valleys	5 acres	Ongoing next 5 years
Geothermal	Geothermal leasing and development.	There has been one request for lease received in the Owyhee Field Office since 2007; however, no offer was made when the lease was put up for sale.	Southwest Idaho	Unknown	There will be little interest or activity in either oil and gas or coal development. The geologic conditions are not amenable to oil and gas development, the volcanic activity that occurred in the area would have “cooked off” most of the hydrocarbons. Acres of anticipated future disturbance is unknown.

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Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
Geothermal drilling	Drilling of 5 production wells	Raft River area	South Side Snake	Approximately 40 acres	Approval given; pending lessee to drill
Geothermal Resource Exploration	Five geothermal resource exploration wells	Raft River Valley, east of Burley Idaho, Twin Falls District	South Side Snake	14 acres	Approved pending implementation
Mineral Materials	Exploration and extraction of mineral materials	Owyhee Field Office	Southwest Idaho	Estimate approximately 60 acres of disturbance in the reasonably foreseeable future	There are 16 current free use permits in the Owyhee Field Office for such materials, and two more will be permitted in the upcoming year. There are three community pits for sand and gravel where individuals can purchase materials. Sales will likely increase over time. As the community pits are exhausted, replacements will need to be identified to meet demand. Decorative stone interest fluctuates with the economy; in particular it will fluctuate as home building increases or

Table 4-75
Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
					decreases. Trespass mineral material actions can also be expected to increase as the housing market improves. There are seven community pits for decorative stone, three of which are depleted and are being closed. Replacement locations need to be identified and made available for public use. Demand for decorative stone will increase in the future. In particular, access to materials used in the construction, maintenance, and upkeep of roads will continue into the foreseeable future.
Oakley Stone quarries	Development of quarries (3,809)	Middle Mountain, Raft River Mountains in Utah	South Side Snake	Approximately 60 acres	Pending
Goat Springs Quarry	Proposal for surface mining of sand and gravel material	South Hills, south of Twin Falls, Idaho, Twin Falls District	South Side Snake	17 acres	NEPA in progress

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Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
		T 13S, R 17E, Section 18			
Lynn Springs Quarry	Plan of Operations-Quarry Expansion	Minidoka Ranger District, Raft River Division, Utah, Sawtooth National Forest	South Side Snake	20 acres	Planned for 2016
Fish Creek Quarry	Plan of Operations Amendment-Quarry Expansion	Minidoka Ranger District, Burley, Idaho, Albion Division, Idaho, Sawtooth National Forest	South Side Snake	10 acres	Planned for 2016
Dove Creek Quarry	Plan of Operations-Amendment-Expansion	Minidoka Ranger District, Raft River Division, Utah, Sawtooth National Forest	South Side Snake	10 acres	Planned for 2016
Paris Hills Phosphate Project	Underground phosphate mine	Paris, Idaho, not on BLM- or Forest Service-administered lands	Southeast Idaho	Unknown	Begin 2015
Dairy Syncline Phosphate Mine	Phosphate mine	10 miles east of Soda Springs, Idaho	Southeast Idaho	Estimated 580 acres (281 acres of open pit) within the block of PGH in Slug Creek drainage	Draft EIS scheduled for May 2014 Final EIS scheduled for May 2015
Paris Hills Exploration Drilling	Exploration drilling, phosphate deposit	Split-estate lands northwest of Bear	Bear Lake	8 acres	Approved by the BLM 2011; most of

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Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
		Lake, Idaho Falls District			approved disturbance has occurred and reclamation underway
Paris Hills Phosphate Mine	Small portion of split-estate lands proposed for inclusion to underground phosphate mine on private lands	Split-estate lands northwest of Bear Lake, Idaho Falls District	Bear Lake	Estimate 10 acres since mine is underground only	Mine plan submittal anticipated 2015; EIS/ROD processing anticipated 2019
Phosphate mine development	Develop mine, mostly on private and state surface, federal minerals	Trail Creek/Caldwell Canyon	East-central Idaho	Approximately 600 acres	Anticipate submission of a mine plan within the next year
Underground phosphate mine development	Develop underground mine, mostly on private land	Paris Hills	Bear Lake	Unknown	Recent news release said development would begin soon on private land, and BLM subsurface would not be mined during the first phase of development.
CPC Minerals Application for Permit to Drill	Exploration well for oil and gas	Split estate lands north of Grey's Lake National Wildlife Refuge, Idaho Falls District	East-Central Idaho	Estimate 10 acres	Not submitted
Oil and Gas	Application for permit to drill	Dillon Ranger District, Beaverhead-Deerlodge National Forest	Southwest Montana - Red Rocks subpopulation (P24)	Unknown, but Forest Service PPH totals approximately 84,800 acres, less than 8,500 acres PPH in moderate potential	NO current APDs; Beaverhead-Deerlodge National Forest Update to Beaverhead-Deerlodge National

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Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
				for development.	Forest Oil and Gas ROD on hold pending outcome of GRSG EIS; likely less than 10 APDs over the next 10-15 years.
Oil and gas lease nominations	Determine whether to offer leases	Bear Lake Plateau	Bear Lake	Two nominations, totaling an estimated 59,700 acres	Deferred, pending completion of GRSG EIS
Oil and gas lease nominations	Determine whether to offer leases	Rogerson-Brown's Bench	South Side Snake	90,000 acres	Deferred, pending completion of Jarbidge RMP and GRSG EIS
Oil and gas lease nominations	Determine whether to offer leases	Payette-Weiser area	East-central Idaho	Several nominations, totaling an estimated 181,000 acres	Deferred, pending completion of Four Rivers RMP and GRSG EIS
Caldwell-Trail Canyon Exploration Drilling	Exploration drilling and access road construction in GRSG general habitat.	Mix of public and split-estate lands, Idaho Falls District	East-central Idaho	21 acres split between public and private lands over 7 years	Approved by the BLM, May 2013
Mineral Gulch Plan of Operation	Exploration drilling plan of operations	Minidoka Ranger District, Idaho, Black Pine Division, Idaho, Sawtooth National Forest	South Side Snake	16 acres	Authorized 2012; not yet implemented
Great Western Exploration Drilling	Core drilling	Lost River Ranger District - Camp Creek area, Salmon-Challis National Forest	Mountain Valleys	1 acre	NEPA; implementation fall 2013

Table 4-75
Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
Gold Star Exploration Drilling	Mineral exploration	Salmon-Cobalt Ranger District – Tower Creek Drainage, Salmon-Challis National Forest	Mountain Valleys	Fewer than 5 acres	Planned in 2014
Flume Creek Exploration Drilling	Mineral exploration	Leadore Ranger District – Flume Creek Drainage, Salmon-Challis National Forest	Mountain Valleys	Fewer than 5 acres	Planned in 2013
Wild Horses and Burros					
Wild horse gathers	Gather, fertility treatment, removal of excess wild horses from HMAs	Sands Basin, Hardtrigger, and Black Mountain HMAs, Owyhee Field Office	Southwest Idaho	128,389 acres of public and other (private and state) land	EAs and decisions have been approved; gathers and treatment are pending due to funding and other priority treatments within the BLM wild horse program.
Recreation					
Special Recreation Permits	Various motorcycle, foot, and mountain bike races, horse endurance rides, dog trials, pioneer treks, and poker runs	Owyhee Front; all motorized activities occur within the designated competitive use area of the Murphy Sub-regional Travel Management Area, Owyhee Field Office	Southwest Idaho	260,000 acres; most activities occur within the Murphy and Wilson Creek travel management areas; approximately 900 miles of designated routes; dog trials occur within the	Future applications and permitting are expected annually.

Table 4-75
Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
				Blackstock SRMA (6,149 acres of BLM-administered land)	
Special Recreation Permits	Typical applications each year include: <ul style="list-style-type: none"> • 2 motorcycle races • 1-2 bighorn sheep guided hunts, 1 wildlife viewing trip, and 1 group hiking trip 	Motorcycle races in East/West Castle Creek Allotments, Bruneau Field Office Other SRPs typically are in or near Wilderness	Southwest Idaho	Unsure	Ongoing
Willow Springs Trail	Single-track motorized trail	Palisades Ranger District in Fall Creek watershed	East-central Idaho	3 miles	Planned for 2015
Indian Spring Trail Plan	Construct new trails and maintain/relocate existing trails for use by mountain bikes	South Hills, south of Kimberly, Idaho, Twin Falls District	South Side Snake	60 miles	Working on NEPA
Horse Endurance Race	Special use permit for horse endurance race	Castle Rocks/City of Rocks west of Almo, Idaho, Twin Falls District	South Side Snake	14 miles	Pending
BORE SRP Jackpot 200	Special use permit for motorcycle race	Shoshone Basin Idaho, North of Jackpot, Nevada, Twin Falls District	South Side Snake	90 miles	Working on NEPA
Recreation Trail Reroutes	Possible addition of one motorcycle trail – Fawn Springs	Minidoka Ranger District, Cassia Division, Idaho, Sawtooth National	South Side Snake	1 mile	Planned for 2018

Table 4-75
Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
		Forest			
Stanley Bunkhouses	Install 3 modular bunkhouses	Sawtooth NRA, Redfish Lake Recreation Complex, Idaho, Sawtooth National Forest	Sawtooth	1 acre	Planned activity 2014-2016
Travel Management					
Bear Lake Travel Management Plan Implementation	Implement Bear Lake Travel Management Plan; limit motorized travel to designated routes, prohibit cross-country travel	BLM- and Forest Service-administered lands within Bear Lake County, Idaho, Idaho Falls District	Bear Lake	50,000 acres	Travel plan approved 2012; implementation ongoing
Curlew/Deep Creek Travel Management Plan Implementation	Implement Bear Lake Travel Management Plan; limit motorized travel to designated routes, prohibit cross-country travel	BLM- and Forest Service-administered lands within Oneida and Power Counties, as well as small portions of Cassia and Bannock Counties, Idaho, Idaho Falls District	South Side Snake	375,000 acres	Proposed decision out for review, June 2013; anticipated decision September 2013; implementation ongoing
North Highway 20 Travel Plan	Designate routes and types of use, parking areas/trailheads and future trail construction corridors	North of HWY 20 in the Shoshone Field Office, Twin Falls District	North Side Snake	Designate 127 miles of existing trails; construct 52 miles of new trails, construct 3 acres of parking areas, close and rehabilitate 116 miles of existing routes.	Pending

Table 4-75
Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
Road Decommissioning	Road decommissioning associated with travel plan	Minidoka Ranger District, Cassia and Sublett Division, Idaho, Sawtooth National Forest	South Side Snake	30 miles per year	Planned 2016
Redfish Lake Road and Bridges – Phase 1	Road and bridge construction	Sawtooth NRA, Redfish Lake Recreation Complex, Idaho, Sawtooth National Forest	Sawtooth	3 acres	Activity during next 2 field seasons
Redfish Lake Road and Bridges – Phases 2 and 3	Road construction	Sawtooth NRA, Redfish Lake Recreation Complex, Idaho, Sawtooth National Forest	Sawtooth	3 acres	Planned in 5 years
Stanley-Redfish trail	Trail construction	Sawtooth NRA, Redfish Lake Recreation Complex, Idaho, Sawtooth National Forest	Sawtooth	Approximately 2 acres (3 miles) of trail construction	Planned in 3 years
Iron Creek Road	Road reconstruction	Sawtooth NRA, Redfish Lake Recreation Complex, Idaho, Sawtooth National Forest	Sawtooth	3 acres	Planned in 4 years
Pole Creek Travel Management	ATV trail construction and unauthorized road obliteration	Sawtooth National Recreation Area, Idaho, Sawtooth National Forest	Sawtooth	4.6 acres of rehabilitation; 1.1 acres (1.75 miles) of trail construction	Implementation started in 2012 and continuing in 2013

Table 4-75
Reasonably Foreseeable Actions

Name	Description	Location	Sage-Grouse Population Area	Estimated Footprint (Acres or Miles)	Status of Action
Land Use Planning					
Jarbridge RMP	Revise the Jarbridge RMP that provides a comprehensive plan that further restores or maintains resource conditions and provides for the economic needs of local communities over the long term	Jarbridge Field Office, Twin Falls District	South Side Snake	1,366,000 acres	Finalizing the EIS
Craters LUP Amendment	Analyze a range of alternatives for livestock grazing in the Craters of the Moon (i.e., identify lands available or unavailable for grazing, identify the amount of forage available, seasons of use, range improvements)	Craters of the Moon National Monument and Preserve, Twin Falls District	North Side Snake	300,000 acres	Working on scoping package and planning public meetings

4.16.3 Special Status Species – Greater Sage-Grouse

The cumulative effects analysis study area extends beyond the planning area boundary and consists of WAFWA GRSG MZs IV and II. This LUPA/EIS contains a quantitative cumulative effects analysis for GRSG habitat within the planning area boundary. At the larger WAFWA MZ level, the analysis is primarily qualitative in nature. Data and information to enable a more comprehensive quantitative analysis that become available between the Draft EIS and the Final EIS may include the following: ongoing LUPAs and revisions, state plans that may not yet be complete, coordination with states and agencies during consistency reviews, and data from non-BLM-administered lands. Those data that become available will be compiled and included in the quantitative cumulative effects analysis for GRSG in the Final LUPA/EIS.

The timeframe for this analysis is 10 years. The assumptions and indicators follow those established for the analysis of direct and indirect effects in Chapter 4.

WAFWA Management Zone IV

MZ IV consists of GRSG populations in the Snake River Plains: east-central Idaho, southwestern Montana, Snake-Salmon-Beaverhead, Belt Mountains, Weiser, northern Great Basin, Sawtooth, and Box Elder (in Utah) (Garton et al. 2011). The three most substantial threats to GRSG habitats and populations occurring across populations in WAFWA MZ IV are weed spread, fire, and isolation/small size (USFWS 2013). The East-central Idaho, Weiser, Northern Great Basin, Snake-Salmon Beaverhead, Sawtooth and the southwestern Montana GRSG populations in Idaho are all within this MZ. The area has a long history of agricultural land uses, and the majority of highly productive lands have been converted to agricultural use, resulting in a sagebrush landscape that is drier and less productive than those of past eras (Manier et al. 2013, pp. 249-250). As a result, many populations in the region are small or isolated, with the exception of central Idaho (watershed of the Snake-Salmon-Beaverhead Rivers) and the northern Great Basin population (USFWS 2013). Habitat availability is a primary limiting factor in this region due to the combination of land use change, leading to fragmentation and isolation, and disturbances, primarily fire (Manier et al. 2013, p. 250).

The majority of the sagebrush in this MZ is federally managed (Knick 2011), but local projects may be more important than range-wide effects because of habitat quality and connectivity at the local scale.

Geothermal energy development potential is high throughout MZ IV. Few oil and gas wells exist in the MZ, and less than 350,000 acres (1 percent) of GRSG habitats are currently leased for federal fluid mineral exploration. Coal and solar potential are also low throughout the MZ. Agricultural development influences one percent of the MZ, but 85 percent of PPH and PGH are within 4.3 miles of cropland (Manier et al. 2013, pp. 250-251).

Northern Great Basin Population

The Northern Great Basin population is a large population in Idaho, Oregon, Nevada, and Utah. This area contains a large amount of publicly managed land (largely BLM). The area also includes among the least fragmented and largest sagebrush dominated landscapes within

the extant range of Sage-Grouse (Knick and Hanser 2011). However, the northern and eastern portions of the population are more environmentally similar to areas where Sage-Grouse have been extirpated (Wisdom et al. 2011).

Despite efforts to manage wildfire risks, wildfires and invasive species have continued to reduce the quality of habitat in the portion of this area covering Idaho, Oregon and Nevada. Idaho's Murphy Fire recently affected roughly 600,000 acres of habitat for this population. Despite efforts to manage wildfire risks, wildfires and invasive species have continued to reduce the quality of habitat in portions of this area. If current trends continue, GRSG populations will decline from an estimated 6,770 males in 2007 to 1,787 males in 30 years (Garton et al. 2011). Largely due to the landscape-altering potential of very large wildfires, this population Idaho is potentially at risk. Other threats in this region include grazing, invasive weeds and conifer encroachment (USFWS 2013).

Snake-Salmon-Beaverhead

This large population extends from the Snake, Salmon and Beaverhead Rivers watershed into southwestern Montana. This area contains a large amount of publicly managed land (primarily BLM and Forest Service). Within the southern portion of this population, wildfires and invasive species have reduced the quality of habitat, while the mountain valley portions of this population appear to have relatively stable habitats. Thus far, energy development is limited and there are few wild horses. A recent rate of change analysis indicates this population has been stable to increasing from 2007 to 2010. Population analysis indicates that Sage-Grouse have fluctuated around 5,000 males since 1992 (Garton et al. 2011). Because of relatively large numbers of birds, good connectivity and stable to increasing populations, this population is considered low risk (USFWS 2013).

East-Central Idaho

Areas within the East Idaho Uplands in the Blackfoot River drainage downstream from Blackfoot Reservoir are characterized by a high proportion of private and state land and a local working group has been actively pursuing conservation measures. Historically these areas have provided popular sites for GRSG hunters. Nevertheless, due to difficult access in winter and spring, little information is available on GRSG populations other than limited location and lek attendance data. Although observation and historic data suggest the area provides good quality breeding and nesting habitat, GRSG numbers appear to be very low. Initial summer surveys in 2011 suggested Sage-Grouse were reasonably widespread throughout the area. However, Sage-Grouse numbers seem surprisingly low. Factors that could act to reduce GRSG populations in this area include grazing, sagebrush treatments in breeding habitat, West Nile virus, and loss or fragmentation of winter range. This population is considered high risk (USFWS 2013).

Sawtooth

This is a small population in central Idaho. No occupied leks are known to exist at this time. This area is largely encompassed by the Sawtooth National Recreation Area and includes a high proportion of BLM- and Forest Service-administered land. This population declined to one male on one lek in 1986 and was increased by translocation during the mid-1980s.



Overall this population is at high risk, due to its small population size and to impacts from grazing (USFWS 2013).

Weiser

This is a small population in western Idaho. Data from 2010 indicated the area had 14 occupied leks. Recently some connection with the Baker population in Oregon has been documented. The area is generally characterized by a high proportion of private land and a local working group has been actively pursuing conservation measures. Because of relatively few birds, fragmented habitat and a large portion of existing habitat on private lands, this population is considered at risk (USFWS 2013). Other threats in this region include grazing, invasive weeds and potential energy development.

Southwestern Montana

The southwestern Montana population occurs in Beaverhead and Madison Counties, in the vicinity of Dillon, MT. Segments of this population make seasonal migrations into Idaho. Priority areas for conservation encompass 80 percent of this area, divided into four sub-populations, and were identified by the relatively high density of GRSG and the genetic connectivity between this area and Idaho. Habitat threats are generally improper grazing management, isolated sagebrush control efforts, and expansion of conifers into Sage-Grouse habitat. Habitat conversion on the Idaho side of this MZ may also affect this population to some extent. Given this population's size, limited habitat threats, and connections to Idaho, the southwestern Montana population is considered low risk (USFWS 2013).

Relevant Cumulative Actions

A number of ROWs for roads, transmissions lines and water pipelines/facilities are in development in the planning area, affecting over 100 acres in the Northern Great Basin and Southwest Montana Population Areas. In addition, the 1,100-mile Gateway West 230/500 Transmission Line project is scheduled to begin construction in 2016 and will affect both of these populations. The ROW renewal for Idaho Power's 5-mile Smith's Prairie transmission line will also affect the Snake-Salmon-Beaverhead Population Area when construction begins in 2015.

The planning area has several oil and natural gas mining projects planned on both BLM-administered and split-estate lands that would impact the Northern Great Basin, East-central Idaho, Snake-Salmon Beaverhead and Weiser populations. There are two approved geothermal exploration drilling permits that could impact the Northern Great Basin population. Any habitat disturbance or increase in noise or associated with oil, gas or geothermal drilling could affect the ability of GRSG to live and reproduce in these areas.

Northern Great Basin and Snake-Salmon Beaverhead areas have substantial numbers of Grazing Allotment Management Plan (AMP) renewals scheduled in the next few years. Grazing AMPs may also impact the East-central Idaho, South-western Montana and Sawtooth Population Areas. These AMP renewals may improve habitat for GRSG in the long term if conservation measures are included. In addition, a recently approved wild horse gather will relieve grazing pressure on GRSG in the Northern Great Basin.

Northern Great Basin, Weiser, East-central Idaho, Southwestern Montana and Snake-Salmon Beaverhead have substantial numbers of noxious weed control, vegetation restoration, conifer removal, and fuels treatment projects proposed or ongoing that would reduce GRSG habitat in the short term. Ultimately, these habitat restoration projects are expected to enhance conditions and expand habitat acreage for GRSG.

The Idaho Fish and Game Department is implementing WAFWA's Sage-Grouse Strategy across management zones. The WAFWA Sage-Grouse Strategy includes monitoring, research, outreach, and funding of conservation projects for Sage-Grouse. A basic premise of the WAFWA Sage-Grouse Strategy is that additional conservation capacity must be developed at all levels (local, state and agency, and range-wide) for both the short-term (first three to five years) and for the long term to ensure Sage-Grouse conservation.

The US Department of Agriculture, the NRCS's Sage-Grouse Initiative is working with private landowners in 11 western states to improve habitat for GRSG while simultaneously improving working ranches (Natural Resources Conservation Service 2012). With approximately 31 percent of all sagebrush habitat across the range in private ownership (Stiver 2011), a unique opportunity exists for the Natural Resources Conservation Service to benefit GRSG and ensure the persistence of large and intact rangelands through implementation of the Sage-Grouse Initiative (USFWS 2010a).

Participation in the NRCS Sage-Grouse Initiative program is voluntary, but willing participants enter into binding contracts or easements to ensure that conservation practices that enhance GRSG habitat are implemented (USFWS 2010a). Though participation is voluntary and, thus, not a traditional regulatory approach, participating landowners are bound by contract (usually 3 to 5 years in duration) to implement conservation practices in consultation with Natural Resources Conservation Service staff if they wish to receive the financial incentives offered by the Sage-Grouse Initiative. These financial incentives generally take the form of payments to offset costs of implementing conservation practices and easement or rental payments for long-term conservation (USFWS 2010a). While potentially effective at conserving GRSG populations and habitat on private lands, incentive-based conservation programs that fund the Sage-Grouse Initiative generally require reauthorization from Congress under subsequent Farm Bills; therefore, these funding streams are potentially variable as they are subject to the political process. As of 2012, the Sage-Grouse Initiative has secured conservation easements on 208,000 acres across the GRSG range (NRCS 2012) with the largest percentage of easements occurring in Wyoming (120,700 acres).

Idaho Fish and Game is also implementing its 2006 Conservation Plan for the Greater Sage-Grouse in Idaho (Idaho Sage-Grouse Advisory Committee 2006). The State of Idaho plan manages and coordinates local working group plans in Idaho's GRSG planning areas. It includes conservation measures and monitoring programs for GRSG and relies primarily on voluntary actions by private landholders.



Major Threat: Fire

Wildfire has been a primary threat to GRSG habitats and populations occurring across MZ IV, resulting in habitat loss and fragmentation (USFWS 2013). Over the last decade (2001 to 2011), more than 3.8 million acres (10 percent of PPH and 13 percent of PGH) of GRSG habitats have burned in this MZ, with an average of more than 237,000 acres of PPH burned annually, with more than 1 million acres burned in some years. The Murphy Fire in Idaho and Nevada affected over 650,000 acres of habitat in this MZ in 2007 (USFWS 2013). Additionally, 81 percent of the region is considered at high risk for fire,¹⁴ and approximately 8.5 million acres (26 percent) spread throughout MZ IV is also considered high risk for cheatgrass invasion. Both the Snake-Salmon Beaverhead and Northern Great Basin population areas are at high risk of fire (Manier et al. 2013). An additional factor in the analysis of cumulative effects of fire on GRSG is the trend of increasing fire size and frequency and severity, due to factors including exotic annual grasses, and climate change.

Under current management (Alternative A), prescribed burning may be used to achieve habitat objectives. The action alternatives (Alternatives B, C, D, E and F) provide for similar protection and maintenance of sagebrush habitat in implementing prescribed burning. The action alternatives all prioritize sagebrush protection in fuels treatment programs. The five action alternatives would provide superior protection for sagebrush in prescribed burning, fuels treatment and fire suppression, with Alternatives B, C, D and F providing more management actions for proactive fire prevention.

GRSG populations within MZ IV have some of the highest densities of all of the seven WAFWA management zones; however, they have undergone long-term population declines. Under Alternative A, the direct and indirect effects described in Chapter 4, in conjunction with the listed past, present and reasonably foreseeable future actions and the likelihood of increasing future fires from annual weed invasions and predicted climate change may result in the increased loss and fragmentation of the existing sagebrush habitat from wildfire in this management zone. Some of the ongoing activities that may help alleviate impacts from fire include ongoing vegetation management actions that reduce fuels, control noxious weeds and improve wildlife habitat; these include the South Owyhee Fuel Break (2,000,000 acres in southwest Idaho) Big Desert Fuel Breaks (10,581 acres in North Side Snake) and the Jarbidge Fuel Breaks (10,500 acres in South Side Snake).

Management actions under Alternative B and the other action alternatives with regard to fire are focused on increased protection of GRSG habitat, primarily within PPH, benefitting GRSG by limiting habitat loss or fragmentation. Under Alternative B, current wildfire suppression operations would continue; however, additional emphasis on protecting existing sagebrush habitat during suppression activities and pre-suppression planning and staging for maximum protection of GRSG habitat would be included. Fuels treatment activities would focus on protecting GRSG habitat, primarily within PPH. Therefore, the direct and indirect effects of fire to GRSG from the management actions under Alternative B are to minimize

¹⁴ High burn probability is based on a national burn probability dataset generated for the 2012 Fire Program Analysis System and provided by the National Interagency Fire Center. Areas were classified in several categories: non-burnable; low probability, and high probability.

the impacts from wildfire on GRSG habitat. In addition, Alternative B would utilize adaptive management in the event of wildfire or other catastrophic loss of habitat to assure conservation measures remain effective in reducing threats to GRSG.

Alternatives C, D, and F all utilize similar approaches as Alternative B with respect to fire, and incorporate adaptive management to allow adjustments to regulatory approaches in the event of wildfire or other catastrophic habitat loss. Alternatives D and E incorporate a more detailed and specific adaptive management approach, including identified triggers for adaptive management action. Otherwise, Alternative E has improved fire suppression and monitoring actions compared to Alternative A, but overall has fewer management actions to protect GRSG from fire than other action alternatives.

Major Threat: Spread of Weeds

Invasive weeds alter plant community structure and composition, productivity, nutrient cycling, and hydrology and may cause declines in native plant populations, including sagebrush habitat, through competitive exclusion and niche displacement, among other mechanisms. Invasive plants reduce and, in cases where monocultures occur, eliminate vegetation that GRSG use for food and cover. Invasives do not provide suitable GRSG habitat, since the species depends on a variety of native forbs and the insects associated with them for chick survival. GRSG also depend on sagebrush, which is eaten year-round and used exclusively throughout the winter for food and cover. Along with competitively excluding vegetation essential to GRSG, invasives fragment existing GRSG habitat or reduce habitat quality. Invasives can also create long-term changes in ecosystem processes, such as fire cycles and other disturbance regimes that persist even after an invasive plant is removed (Connelly et al. 2004, pp. 5-9). All the subpopulations in Idaho are threatened to some extent by spread of invasive weeds, especially cheatgrass.

Under current management (Alternative A), the BLM utilizes integrated weed management techniques, including mechanical, manual, chemical, and biological control to reduce the likelihood of invasive weed spread and the extent of current infestations. This issue is intimately tied to the threat from fire, and fuels management actions can also reduce weeds and create fire breaks. The Northern Great Basin, Salmon-Snake Beaverhead, Weiser and Southwestern Montana population areas are at high risk from spread of weeds.

Under all alternatives, integrated vegetation management would be used to control, suppress, and eradicate noxious and invasive species. Under Alternatives B, C, and D, vegetation management and restoration would prioritize sagebrush re-establishment and weed control as part of habitat management. Overall, methods, approaches, and resources for weed control would be similar under all alternatives, including Alternative A. However, the restrictions on uses that would be implemented under the action alternatives would reduce surface-disturbing activities, and thereby reduce the likelihood for the introduction and spread of weeds. Thus, the action alternatives are more likely to reduce spread of weeds than current management.



Major Threat: Isolation/Small Population Size

The Northern Great Basin as a whole represents one of the larger areas of habitat connectivity and supports the largest GRSG population (Garton et al. 2011). However, the Sawtooth, Weiser and East-Central Idaho populations are small and isolated with little apparent connectivity to other populations. These areas have been isolated by extirpation of neighboring populations or conversion of sagebrush habitat to agricultural fields or human developments.

Special designations, such as ACECs, ZAs, and WSAs, may provide protection to GRSG habitats, as they include special management prescriptions to protect land areas from habitat fragmentation, loss, and human disturbance. Alternatives C and F are the only alternatives which establish new ACECs for GRSG protection. Alternative F establishes additional ZAs on Forest Service-administered lands. Other BLM protective actions, such as fire suppression and ROW co-locating, would provide additional benefit to isolated populations, which can least afford to lose individuals or reduce recruitment rates.

Across all alternatives, state and local efforts would continue to address the isolation/small size threat through a mix of voluntary and regulatory mechanisms. In addition, many of the proposed projects listed in Table 4-75 would contribute to alleviating isolation and fragmentation through habitat restoration projects aimed at restoring connectivity.

Overall, all action alternatives contain management actions which, when combined with the state and local efforts, would likely prevent the threat of isolation/small size from worsening. In addition, Alternatives C and F would establish new ACECs (and ZAs under Alternative F) for GRSG protection.

WAFWA Management Zone II

WAFWA MZ II only overlaps a very small portion of eastern Idaho, Bear Lake, which is on the fringe of the Wyoming Basin population. The major threats to the Wyoming Basin population are energy and infrastructure. Other threats include spread of weeds, recreation and fire.

Wyoming Basin

This large population covers approximately two-thirds of the State of Wyoming and extends into Montana, Idaho, Utah and Colorado. The population is separated from adjacent populations by distance and topography (Garton et al. 2011). Sage-Grouse habitats are expansive and relatively intact, outside of areas of energy development. The primary threats to this portion of the population are energy development and transfer, including both renewable and non-renewable resources, along with long-term drought and brush eradication programs (USFWS 2013).

Declines of Sage-Grouse near oil and gas fields in this area have been well documented (Lyon 2000; Holloran 2005; Kaiser 2006). However, due to the large size of this population, the presence of large, contiguous habitats, and regulatory measures providing habitat protection, this population is considered low risk (USFWS 2013).

Major Threat: Energy

Energy development is among the greatest threats to GRSG in MZ II (Manier et al. 2013). It can result in direct habitat loss; fragmentation of important habitats by roads, pipelines, and power lines; noise; and direct human disturbance. The effects of energy development often add to the impacts from other human development and result in GRSG population declines. Population declines associated with energy development result from the lek abandonment, decreased attendance at leks that persist, lower nest initiation, poorer nest success, decreased yearling survival, and avoidance of energy infrastructure in important wintering habitat areas (Holloran 2005, pp. 38-39; Aldridge and Boyce 2007, p. 517).

Nonrenewable (oil and gas) energy development impacts GRSG and sagebrush habitats through direct disturbance and habitat loss from well pads, access construction, seismic surveys, roads, power lines, and pipeline corridors; and indirectly from noise, gaseous emissions, changes in water availability and quality, and human presence. The interaction and intensity of effects could cumulatively or individually lead to habitat fragmentation in the long term (Connelly et al. 2004, p. 41; Holloran 2005, pp. 57-60). Renewable energy facilities, including solar and wind power, typically require many of the same features for construction and operation as do nonrenewable energy resources. Therefore, impacts from direct habitat losses, habitat fragmentation through roads and power lines, noise, and increased human presence would generally be similar to those for nonrenewable energy development (USFWS 2010a, p. 13951-2).

Surface and subsurface mining for mineral resources (coal, uranium, copper, phosphate, and others) results in direct loss of habitat if they occur in sagebrush habitats. GRSG and nests could be directly affected by trampling or vehicle collision. GRSG also could be impacted indirectly from an increase in human disturbance, ground shock, noise, dust, reduced air and water quality, and changes in vegetation and topography (Brown and Clayton 2004). Industrial activity associated with the development of surface mines and infrastructure could result in noise and human activity that disrupt the habitat and life cycle of GRSG. All studies which assessed impacts of energy development on GRSG found negative effects; no studies reported a positive influence of development on populations or habitats (Naugle et al. 2011). Declines in GRSG population growth (21 percent) between pre- and post-mine development were attributable to decreased nest success and adult female survival; the treatment effect was more noticeable closer to gas field infrastructure. Annual survival of individuals reared near gas field infrastructure (yearling females and males) was significantly lower than control individuals not reared near infrastructure (Holloran 2005).

Across MZs II, energy development – primarily oil and gas development – and supporting infrastructure are a major threat to GRSG habitats and populations (USFWS 2013). Approximately 7.8 million acres (21 percent) of GRSG habitats in this MZ are currently leased for development of federal natural gas or oil reserves. MZ II also have leases for the research of oil shale extraction in the southern populations (Manier et al. 2013). Less than one percent of PH and GH are directly influenced by a natural gas or oil well, but 99 percent are within the likely effects buffer (11.8 miles) of these wells. The potential for coal mining,



geothermal energy development, oil shale development, and wind energy development are additionally widespread throughout the MZ (Manier et al. 2013).

Alternative A would maintain the current acreage open to leasing of fluid minerals without stipulations. Alternative A would also maintain the current acreage open to locatable mineral development. Under Alternatives B and C, locatable minerals would be petitioned for withdrawal from habitat areas. Also, closure to fluid mineral leasing of PH would occur under Alternative B and in all designated habitat under Alternative C. Alternatives D and E would not close any acreage to fluid mineral leasing but would place most under NSO or CSU stipulations.

Table 4-75 shows one exploration drilling project anticipated in the Bear Lake area of Wyoming Basin as well as one determination of whether to offer oil and gas leases, and two phosphate mining projects. It is unclear to what extent these numbers would be reduced under the action alternatives. Alternatives B, C, D and F would close GRSG habitat to fluid mineral leasing, which would limit the amount of future development in these areas. Alternative E would place these areas under CSU or TL stipulations.

Restrictions on future leasing would reduce well construction in GRSG habitat compared to Alternative A, and closing areas to mineral leasing would eliminate new disturbances in these areas. Thus, Alternatives B, C, D, or F would be more protective of GRSG habitat areas than Alternatives A or E. On non-BLM-administered and non-Forest Service-administered lands, state regulators and oil and gas leaseholders would try to avoid and establish buffers around leks and breeding areas and reduce disturbance from existing energy development sites. Given the high numbers of projected new wells and mines, it is likely that energy development would remain a threat to GRSG under any of the alternatives.

Major Threat: Infrastructure

Human developments, such as power lines, communication towers, fences, roads, and railroads, contribute to habitat loss and fragmentation, with power lines and roads having the largest effects (Connelly et al. 2004; Naugle et al. 2011). Human disturbance is increased over the short term during infrastructure construction. In the long term, increased threats from predators perching on infrastructure may cause declines in lek attendance or nest success. GRSG population declines have resulted from avoidance of infrastructure, reduced productivity, and/or reduced survival in the vicinity of infrastructure (Naugle et al. 2011).

Power lines can directly affect GRSG by posing a collision and electrocution hazard, and can have indirect effects by decreasing lek attendance and recruitment, increasing predation, reducing connectivity, and facilitating the invasion of invasive plants (Braun 1998, pp. 145-146; Connelly et al. 2004, pp. 12, 25). In particular, power poles and crossarms provide perches and nesting habitat for potential avian predators, such as golden eagles and ravens (Ellis 1985). GRSG have been observed to avoid brood-rearing habitats within 3 miles of transmission lines (LeBeau 2012). Higher densities of power lines within 4 miles of a lek negatively influence lek attendance (Walker et al. 2007). In addition, power lines are linear and often extend for many miles. Thus, ground disturbance associated with power line

construction, as well as vehicle and human presence during maintenance activities, may introduce or spread invasive weeds over large areas, thereby degrading habitat.

Impacts from roads may include direct habitat loss from road construction and direct mortality from collisions with vehicles. Roads may also present barriers to migration corridors or seasonal habitats. Other impacts include facilitation of predator movements, spread of invasive plants, and human disturbance from noise and traffic (Formann and Alexander 1998, pp. 207-231). Research suggests that road traffic within 4.7 miles of leks negatively influence male lek attendance (Connelly et al. 2004). Fences also may cause direct mortality through collisions, as the birds fly fast and low across the landscape, particularly during the breeding season. In addition, fence poles create predator perch sites and potential predator corridors along fences (particularly if a road is adjacent). Furthermore, fences may effectively cause habitat fragmentation, as GRSG may avoid habitat around the fences to escape predation (Braun 1998, p.145). The NRCS Sage-Grouse Initiative includes incentives for private landowners to mark or remove fences that have been deemed high-risk for GRSG injury or mortality.

Restrictions in Alternatives B, C and F would prevent ROWs from being located in PH, while Alternatives D and E would avoid siting in PH if possible, preserving management flexibility at the expense of localized habitat degradation. Alternative A would not restrict the siting of ROWs, though existing guidance does recommend co-locating ROWs when possible. Management under Alternative B, C or F would benefit GRSG on BLM- and Forest Service-administered lands but might have the side-effect of pushing ROW development to private lands with no land-use restrictions. Pushing development onto private lands might result in more loss of GRSG habitat in the long-term. Alternative D or E would improve management over Alternative A by siting ROW infrastructure such that it minimizes loss and fragmentation of habitat, predation risk, and other threats, and would also avoid pushing ROW development onto private lands.

Conclusion

While implementation of the action alternatives would reduce threats faced by GRSG in MZs IV and II, overall trends toward habitat loss and fragmentation are likely to continue from spread of invasive weeds, wildfire, infrastructure, and other threats, especially in small, isolated populations. BLM management under the alternatives can restrict infrastructure and energy developments in GRSG habitat but has limited ability to affect spread of weeds, fire and isolation, the major threats in most of Idaho. The primary means of alleviating these major threats is through vegetation management, which is limited to certain areas and unlikely to approach the scope of the threats, or to prevent catastrophic wildfire. However, all action alternatives include an adaptive management program, more detailed in Alternatives D and E, that would enable BLM and Forest Service management to adjust management to meet GRSG conservation objectives in the event of catastrophic loss of habitat.

Nonetheless, the major threats are likely to continue in MZ IV and II under all alternatives. The isolation and small size of the Sawtooth, Weiser and East-Central Idaho populations in particular increases risks posed by wildfire, disease and predation. The Snake River



population areas, Northern Great Basin, Wyoming Basin and Southwestern Montana populations are large and presently stable, but face threats from a variety of human developments and infrastructure, in addition to wildfire and spread of weeds. These populations are also potentially at risk over the long term, unless effective vegetation management and land development restrictions are put in place.

4.16.4 Vegetation

Past, present, and reasonably foreseeable future actions and conditions that affect vegetation are vegetation and habitat management and improvement projects, noxious weed control, wildfire management, livestock grazing management, lands and realty management, mineral extraction and development, and travel management planning.

Sagebrush-promoting and conifer-removing vegetation and habitat treatments would retain and enhance sagebrush vegetation and overall ecosystem productivity, while reducing the distribution of invasive weeds and woody conifer species. Given the limited distribution of suitable sagebrush habitats and the cost of habitat restoration, management plans that protect intact sagebrush acreage and restore impacted areas strategically to improve habitat connectivity have the best chance of increasing the amount and quality of sagebrush cover (Manier et al. 2013).

An assortment of nonnative annuals and perennials and native conifers is invading sagebrush ecosystems. Many areas throughout the range of GRSG are at high risk from invasive plants; the most concentrated areas of risk include the Intermountain West and Great Basin (Manier et al. 2013). Invasive plants can alter plant community structure and composition, productivity, nutrient cycling, and hydrology and may competitively exclude native plant populations. Invasive plant spread may result in habitat loss and fragmentation and may also increase the risk of wildfire. The spread of invasive plants such as cheatgrass has increased the frequency and intensity of fires in some areas (Balch et al. 2012). Treatments designed to prevent encroachment of shrubs, nonnative species, or woody vegetation would alter the condition of native vegetation communities by changing the density, composition, and frequency of species within plant communities. The intent of these management programs is to improve rangeland condition and enhance sagebrush ecosystems.

Slow rates of regrowth and recovery of vegetation after disturbances (driven by low water availability and other constraints) coupled with high rates of disturbance and conversion to introduced plant cover have contributed to the accumulating displacement and degradation of the sagebrush ecosystem (Beck et al. 2009). Big sagebrush does not resprout after a fire but is replenished by wind-dispersed seed from adjacent unburned stands or seeds in the soil. Depending on the species and the size of a burn, a return to pre-burn community cover can take 13 to 100 years (Connelly et al. 2000). When management reduces wildfire frequency by suppressing natural ignitions, the indirect impact is that vegetation ages across the landscape, and early successional vegetation communities are diminished.

Fire suppression may preserve the condition and connectivity of some vegetation communities. This is particularly important in areas where fire frequency has increased as a result of weed invasion or where landscapes are highly fragmented. Fire suppression can also

lead to increased fuel loads, which can lead to more damaging or larger fires in the long term. Fire also increases opportunities for invasive species such as cheatgrass to spread, so fire suppression can indirectly limit this expansion.

Controlled burning may be prescribed to treat fuel buildup and to assist in the recovery of sagebrush habitat in some vegetation types. Reseeding with native plants and long-term monitoring to ensure the production of cover and forage plants would assist vegetation recovery (NTT 2011).

Livestock grazing may have both beneficial and detrimental aspects on rangeland vegetation, depending on site-specific management (USFWS 2010). At unsustainable levels, grazing can lead to loss of vegetative cover, decreased plant litter, increased soil erosion, and reduced habitat quality for wildlife (Knick 2011; Connelly et al. 2004). When properly managed, grazing can be used as a tool to reduce fuel load, reduce spread of noxious weeds, protect intact sagebrush habitat, and increase habitat extent and continuity (Briske et al. 2011). In areas meeting BLM Idaho Public Land Health Standards or similar Forest Service standards, grazing practices coexist with healthy vegetation communities, providing wildlife habitat.

Grazing systems that aim to protect sagebrush and riparian ecosystems would allow more plant growth and reduce trampling and introduction of exotic species. Reducing or removing grazing in habitats would also reduce these effects but could have unintended consequences of increasing fuel buildup or degrading vegetation quality over the long term. Range improvement projects often can be used to improve livestock distribution and set aside areas for rest from grazing, which would reduce the likelihood of impacts described above.

As described in **Section 4.3**, Vegetation, mineral extraction and development impacts sagebrush habitats directly by disturbance and removal from well pad and access construction, seismic surveys, roads, power lines, and pipeline corridors. It impacts sagebrush habitats indirectly by gaseous emissions, changes in water availability and quality, and human disturbance. The interaction and intensity of effects could cumulatively or individually lead to habitat fragmentation in the long term (Connelly et al. 2004; Holloran 2005).

The BLM uses travel management planning to designate and close routes and to balance the demands for motorized recreation and access with protection of sensitive resources. By planning at the landscape scale, the BLM would be able to retain large expanses of sagebrush and manage impacts on vegetation from motorized vehicles (discussed in **Section 4.3**, Vegetation) through route designations and closures.

Alternatives Analysis

Under Alternative A, current management would continue on BLM- and Forest Service-administered lands in the planning area. There would be no PPMA or PGMA designated, and most land use plans would not implement use restrictions (e.g., ROW exclusion and closure to mineral leasing and development) to protect GRSG habitat. Grazing management would not specifically consider GRSG habitat needs, and vegetation management would not



prioritize sagebrush. Prescribed fires in sagebrush communities could be harmful to sagebrush, which is slow to regrow and susceptible to weed invasion post-fire.

Planned ROW construction could increase fragmentation of vegetation, and new mineral extraction would increase loss of sagebrush vegetation. However, some use restrictions would be implemented, which would protect vegetation in these areas from degradation or removal. Vegetation management and noxious weed control projects would benefit sagebrush ecosystems by removing invasive plants and promoting healthy vegetation communities. Overall, Alternative A would lack the landscape-level management tools to reduce cumulative effects from past, present, and reasonably foreseeable future actions.

Under Alternative B, PPMA and PGMA would be designated and ROW exclusion and avoidance areas would be established over larger areas, compared to Alternative A. Grazing management would be improved, which would reduce impacts on sagebrush vegetation. No ACECs would be established, but land disposals and acquisitions would focus on maintaining sagebrush acreage and connectivity. ROWs, access roads, and associated infrastructure planned according to Table 4-75 would be sited outside PPMA under Alternative B. Planned mineral exploration and development would be sited outside PPMA in unleased areas, and conservation measures would be applied to valid existing rights. The vegetation management and restoration projects mentioned above would benefit the planning area in discrete locations. Prescribed fire areas would be reseeded and monitored to prevent invasive plants from becoming established. As a result, the cumulative effects from past, present, and reasonably foreseeable future actions under Alternative B would be reduced, compared to Alternative A.

Cumulative impacts under Alternative C are similar to those described for Alternative B, though with fewer restrictions on resource uses. Under Alternative C, grazing would be removed from occupied habitat, which would allow for greater herbaceous growth but could increase fuel loading and risk of wildfire. This could degrade vegetation quality over the long term. Given the uncertain effects of removing livestock grazing, it is not known whether cumulative effects from past, present, and reasonably foreseeable future actions would be reduced, compared to Alternative A.

Alternative D is intended to preserve management flexibility and provide increased implementation guidance, while protecting GRSG habitat. Management under Alternative D would increase vegetation protection, compared to current management, but with more limited actions than Alternatives B or F. Alternative D would establish ROW avoidance but not exclusion areas, thereby reducing but not eliminating impacts from ROW development.

Restrictions on mineral leasing and development would be greater than under Alternative A but less stringent than Alternatives B and F. Prescribed burning and fuels management would take sagebrush vegetation into account. As under the other alternatives, the vegetation management and weed control plans listed in Table 4-75 would benefit vegetation health. Development restrictions in occupied habitat would retain vegetation, and rangeland improvements would improve vegetation quality on sagebrush acreage. As a result, the cumulative effects from past, present, and reasonably foreseeable future actions under

Alternative D would be reduced, compared to Alternative A, but to a lesser extent than Alternatives B and F.

Cumulative impacts from Alternative E are similar to those described for Alternative D, though Alternative E would require less stringent use restrictions and would designate the least amount of CH (compared to PPMA) of all the action alternatives. As a result, the cumulative impacts from past, present, and reasonably foreseeable future actions would be reduced, compared to Alternative A, but to a lesser extent than the other action alternatives.

Alternative F would provide more protection to GRSG habitat on BLM-administered and Forest Service-administered lands but would reduce management flexibility. Alternative F would establish ACECs and ZAs in occupied habitat, and occupied habitat would become ROW exclusion areas and closed to mineral development and leasing. These provisions would protect vegetation from loss, fragmentation, and disturbance associated with surface-disturbing activities. Reduced management flexibility could lead to inefficient or ineffective management at the site-specific scale, when conditions may require alterations in management. As under the other alternatives, the vegetation management and weed prevention projects listed in Table 4-75 would benefit vegetation health.

Alternative F would impose the most stringent restrictions on development of GRSG habitat, potentially restricting the ROW and mineral developments in Table 4-75 thereby retaining the greatest extent of sagebrush vegetation. Alternative F would result in the greatest reduction in cumulative effects from past, present, and reasonably foreseeable future actions, compared to all alternatives.

4.16.5 Wild Horses and Burros

The cumulative impact analysis area used to analyze cumulative impacts on wild horses and burros management includes the planning area. This is because impacts are expected to be limited to those actions originating within the planning area.

Past, present, and reasonably foreseeable actions and conditions within the cumulative impact analysis area that have affected and will likely continue to affect wild horses and burros management are actions that change forage and water availability, access to water sources, range conditions, and barriers to movement and population control (such as removing excess animals and repressing population).

Reasonably foreseeable projects in the project area are extensive vegetation treatment and fuels reduction projects. These could result in short-term impacts on horses and burros, but they are likely to improve rangeland health in the long term. Population control gathers would continue in the area to keep wild horses and burros at appropriate population levels and to support maintenance or improvement of land health in the area overall. In addition, actions that indirectly disturb wild horses and burros are recreation and development for transmission, as well as the exploration for energy and mineral development.



Under all alternatives, no direct change would occur on areas allocated as HMAs for wild horses and burros. Under Alternative A, AML would continue to be adjusted as needed, based on rangeland conditions. Populations would be controlled to support land health within the constraints of national priorities and budgets. Under Alternatives B, C, D, and E, there could be long-term reduction of AMLs. This would come about if management for wild horses and burros conflicts with GRSG management objectives, resulting in a cumulative addition to the management needs and associated costs of wild horse and burro management in the planning area. Under Alternative F, a direct 25 percent reduction in AMLs is proposed, resulting in a cumulative addition to costs and time for management of the wild horse and burro program due to the need for increased gathers. This could strain available resources in the region.

In addition, should management resources be concentrated in GRSG habitat due to priorities for management under the action alternatives, HMAs outside of GRSG habitat may be allotted fewer resources. In general, actions to improve land health for GRSG are also likely to improve rangelands for wild horses and burros, resulting in a cumulative improvement in the ability to meet AMLs.

4.16.6 Wildland Fire

Past, present, and reasonably foreseeable future actions and conditions within the cumulative impact analysis area that have affected and will likely continue to affect wildfire are fuels and vegetation management projects, ROW and energy development, projects that impact the agencies' abilities to respond to wildfire, and projects that would increase the risk of human-caused ignitions.

Wildfires in the planning area have been frequent in the past, with over 9,600 wildfire starts occurring on or threatening to spread to BLM-administered lands in the planning area between 1980 and 2012. Approximately 54 percent of these wildfires were attributed to human-caused ignition. Wildfires are expected to increase in the future due to increasingly severe drought conditions caused in part by climate change. This could impact wildland fire management through increased personnel requirements and need for fire suppression and resultant increased costs.

A variety of fuels treatments, including hazardous fuels reduction, prescribed fires, chemical and mechanical treatment, and seeding, would likely continue to be used. At least 80 reasonably foreseeable fuels and vegetation management projects have been identified within the planning area (see Table 4-75).

ROWs and the associated development may increase the risk of human-caused ignitions due to vehicular travel to and from the site, construction, maintenance, and operation of the facilities. The development allowed under these authorizations would result in surface disturbance, which would generally contribute to the modification of the composition and structure of vegetation communities in the vicinity of developed areas, which could then be more likely to fuel high-intensity fires.

Similarly, energy and mineral development has contributed to human-caused ignitions in the planning and would do so in the future.

As the global effects of climate change continue, the likelihood of natural unplanned ignition within the planning area may increase due to the irregular weather patterns, increased likelihood of storms, and drought.

Alternatives Analysis

Under Alternative A, the trends described above would continue to affect wildland fire management in the planning area.

Under Alternative B, restrictions on land uses and development may reduce new sources of ignition and decrease the risk of human-caused ignitions. However, this alternative may restrict the ability of the wildland fire management program to suppress and preventatively treat fires.

Under Alternative C, responses to wildfire or appropriate treatments to prevent wildfire may be prohibited. As a result, there may be changes in fuel levels and management options for fuels treatments and wildfire suppression. Drought may cause vegetation to be more vulnerable to wildfires. In addition, the exclusion of livestock grazing on BLM-administered lands could increase fine fuels and associated risk of wildfire. These cumulative effects would create a need for greater flexibility in fire suppression, but stringent controls on the wildland fire management program under Alternative C would inhibit responses to and preventative treatments for wildfire.

Under Alternative D, the emphasis on fire risk reduction in the GRSG habitat and efforts to coordinate with local and state governments would cumulatively reduce fire risk across all landownership types in the planning area.

Under Alternative E, impacts in Montana are the same as under Alternative A. In Idaho, guidance to reduce wildfire response time, create fuel breaks, and improve the wildfire suppression baseline would provide the wildland fire management program with the tools necessary to manage fuel levels and decrease the risk of catastrophic wildfire in the planning area.

Alternative F places the greatest restrictions on land uses and development. It also includes the greatest restrictions on the wildland fire management program, limiting wildfire response options and fire and fuels treatments. As a result, there would be less risk of human-caused ignition, but the lack of proactive fire prevention activities (e.g., fuels treatments) may mean that wildfires would be more severe. Drought may cause vegetation to be more vulnerable to wildfires, exacerbating these effects. The management actions under Alternative F that inhibit responses to and preventative treatments for wildfire may be insufficient to meet the growing need for wildland fire management flexibility over the long term.



4.16.7 Livestock Grazing

Past, present, and reasonably foreseeable future actions and conditions that have affected and will likely continue to affect livestock grazing are those that reduce available grazing acreage and the level of forage production in those areas or that inhibit livestock improvements, such as water development or fences.

In the planning area, relevant past and present actions include human-caused surface disturbances, such as those associated with minerals, transmission and energy development, recreation, and current and historic grazing practices. In addition, changes in habitat due to historic fire suppression and climate change have resulted in juniper and other trees encroaching onto grasslands, decreasing available forage.

Reasonably foreseeable future actions affecting livestock grazing are similar to the present actions and include numerous permit/lease renewals, over 75 allotment NEPA assessments, and additional AMP reviews, as detailed in **Table 4-75**. These actions could cumulatively reduce permitted AUMs or restrict management options when allotments are found to be inconsistent with land health standards due to livestock use. Furthermore, proposed fencing projects may impact ability to distribute livestock. Conversely, the development of 40 springs and associated pipelines, as well as additional water troughs, would provide additional watering sources and may allow for better distribution of livestock, resulting in decreased time and costs for permittees to manage livestock.

Cumulative projects that increase human disturbance in grazing areas could also indirectly impact grazing, by increasing weeds and the spread of invasive species. As stated above, weed invasion can reduce preferred livestock and wildlife forage and increase the chance of weeds being dispersed by roaming cattle. Cumulative projects that increase human disturbance in grazing areas could also directly impact grazing by displacing, injuring, or killing animals. Such projects include drilling and road construction for mineral development operations.

Conversely, planned vegetation improvement and fuels reduction and restoration projects in the planning area, as described in **Table 4-75**, may exclude grazing from site-specific areas temporarily. However, these projects would generally improve rangeland conditions in the long term by reducing juniper encroaching into grasslands and, potentially, by improving vegetation condition. In addition to foreseeable actions, vegetation may change due to continued drought or climate change. While these changes are difficult to quantify, they are likely to include reduced forage availability.

Alternatives Analysis

The contribution of the project to cumulative impacts would parallel the impacts of the alternatives, as described in **Section 4.5**, Livestock Grazing/Range Management.

Under Alternative A, permitted active use would likely decline to some extent over time, following observed trends. Alternative A would allow the highest level of surface disturbance

of all alternatives, with the highest cumulative contribution to decrease forage availability in the planning area.

Under Alternative B, while no direct reduction permitted AUMs would occur, compared to Alternative A, permitted active use would decline to a greater extent over time. This is because of the implementation of grazing management changes to meet GRSG habitat objectives. These include potential grazing management changes and restrictions on structural improvements and water developments. As a result forage availability may increase in GRSG habitat, although this forage would generally not be available for livestock use.

Surface-disturbing activities would be sited in lower priority habitats and mainly in nonhabitats, increasing cumulative impacts in these areas.

The greatest impacts on livestock grazing in the planning area would be seen under Alternative C, due to the elimination of all AUMs within occupied habitat. The elimination of grazing in occupied habitat may reduce livestock grazing overall, both inside and outside the planning area. Many livestock operations that rely on BLM- and Forest Service-administered lands also incorporate private and leased lands in their operations. Grazing on private lands are often limited and may not be able to absorb the grazing use that is eliminated from BLM- and Forest Service-administered lands.

Eliminating grazing in occupied habitat would likely result in operations going out of business. In other cases, greater reliance on private lands could also put additional pressure on forage resources and may accelerate the conversion of private native range at a local level, potentially including GRSG habitat, to agricultural or introduced grass production.

Cumulative impacts under Alternatives D are similar to those described under Alternative B. Impacts from the project would be focused on the highest quality GRSG habitat limit any impacts of disturbance from development in these areas but may shifting disturbance and related forage loss to nonhabitat on BLM-administered and other lands.

Contribution to cumulative impacts on grazing in Alternative E would be slightly decreased, compared to other action alternatives. This would be due to increased flexibility in application of restrictions to account for site-specific habitat needs.

Under Alternative F, contribution to cumulative impacts are similar to that described under Alternative B. In addition, prohibiting structural range improvements and new water developments under Alternative F would further decrease grazing in the area for both BLM-administered lands and in the area overall. This would increase forage availability but could lead to closures/reductions of grazing should operators go out of business.



4.16.8 Travel and Transportation

Past, present, and reasonably foreseeable future actions and conditions that have affected and will likely continue to affect travel and transportation are the result of management actions to obtain the following:

- Limit motorized travel to existing or designated routes
- Designate types of uses and seasonal restrictions for designated routes
- Limit the construction or expansion of roads in GRSG habitat (Refer to **Table 4-55**, OHV Area Designations by Alternative)

Alternatives Analysis

Under all alternatives, unauthorized cross-country motorized travel will continue to impact comprehensive travel and transportation management. Cumulative impacts from cross-country travel include the creation of new linear features and the need for additional management, such as enforcement, signs, and education. Unauthorized travel could result in seasonal or permanent closures of areas or designated routes. Staff in several BLM field offices and National Forests in the planning area are developing travel management plans to address the need for closures and designate routes. For example, the Minidoka Ranger District in the Sawtooth National Forest is decommissioning 30 miles of roads per year as part of its travel plan (see Table 4-75).

Under Alternative A, only travel management planning being carried out by BLM Field Offices and Forest Service Ranger Districts under separate planning efforts would impact travel management. Under Alternative B, the BLM and Forest Service would limit motorized travel to existing roads and trails in PPMAs, thereby reducing cross-country access in those areas. Reducing access would be greatest under Alternative C, due to BLM management that would prohibit new road construction within 4 miles (x km) of active leks and preclude upgrading of existing routes in PPMAs. Cumulative impacts on travel and transportation management as a result of the limitations under Alternative C could include congestion on the existing travel route network in and next to the planning area, particularly where routes provide access to multiple resource uses.

Impacts on travel and transportation management under Alternatives D and F are the same as under Alternative B, while impacts under Alternative E are the same as under Alternative A.

Reasonably foreseeable trends that would result in cumulative impacts on travel and transportation are continued growth patterns in demand for OHV recreation experiences, continued and increased visitation from a growing regional population, and increased popularity of adjacent BLM- and Forest Service-administered lands.

4.16.9 Lands and Realty

Past, present, and reasonably foreseeable future actions and conditions that have affected and will likely continue to affect lands and realty are land use authorizations, including

foreseeable demand for ROWs associated with transmission lines, roads, and expanded communication infrastructure (see Table 4-75). They also include land tenure adjustments and withdrawals necessary to meet various public needs.

Land use authorizations in the planning area place the largest demand on the BLM and Forest Service lands and realty programs. Past authorizations include those for linear features, such as roads, power lines, and water canals, pipelines, and site ROW features, such as communication towers and temporary permits for oil and gas facilities. There will be a steady increase in demand for ROWs to accommodate new power, water, and telecommunication lines, roadways, pipelines, and communication sites. Two major realty actions being considered in the sub-region are the Gateway West and Boardman to Hemmingway transmission line projects. These projects would add over 1,000 miles (600 km) of new ROWs across southern Idaho. BLM and Forest Service management prescriptions that would limit the BLM's ability to accommodate ROW development would influence the level of cumulative impacts on lands and realty.

Land tenure and landownership adjustments allow the BLM and Forest Service to effectively manage BLM- and Forest Service-administered lands over time. Exchanges may consolidate BLM- and Forest Service-administered lands and improve management efficiency. Land exchanges are pending in the Bruneau and Challis BLM Field Offices. In the Bruneau Field Office, the BLM would dispose of 33,000 acres of non-GRSG habitat and would acquire 38,000 acres of mostly GRSG habitat. In the BLM Idaho Falls District, there are 235 acres of pending land sales. Management prescriptions that limit land tenure adjustments could result in cumulative impacts on lands and realty and other resources and uses.

Land withdrawals are used to preserve sensitive environmental values, protect major federal investments in facilities, support national security, and provide for public health and safety. There are several pending land withdrawals, for which jurisdiction would be transferred to the Department of Defense for military use or to Idaho Power as part of a state-wide Integrated Resource Plan for power development.

Alternatives Analysis

Impacts on lands and realty across alternatives depend largely on the number of acres where the BLM or Forest Service would exclude or avoid new ROW development. Under Alternative A, the BLM and Forest Service would continue to authorize ROW development and temporary surface disturbance on a case-by-case basis. There would continue to be 1,010,900 acres designated as ROW exclusion and 1,903,400 as ROW avoidance. Land tenure adjustments would be subject to current LUP criteria without further limitations. As a result, cumulative impacts on lands and realty would occur as new ROWs or land tenure adjustments are proposed. Alternative A would not affect the BLM's or Forest Service's ability to accommodate new ROW development or to improve management efficiency through land tenure decisions or withdrawals.

Under Alternatives B, C, D, E, and F, BLM and Forest Service management would include increased levels of ROW restrictions, when compared to Alternative A. Designations of areas as avoidance or exclusion would not impact existing ROW authorizations. The



restrictions would, however, impact future ROW authorizations. Alternative C would restrict ROW development the most by designating PPMAs and PGMAs as ROW exclusion. Alternative B would prohibit ROW development in PPMAs, while Alternative D would exclude electrical transmission lines greater than 50kV on 6,135,200 acres.

A prohibition on ROW development, particularly electrical transmission lines, over a large area would prevent the BLM and Forest Service from accommodating demand for new ROWs. Potential ROW applicants could choose to develop on land not administered by the BLM or Forest Service outside the planning area. This could increase environmental impacts on sensitive lands and permitting times and decrease the overall effectiveness of the power grid, telecommunication system, or roadway network. Development on adjacent lands could also result in indirect effects on BLM- and Forest Service-administered lands via increased vehicle traffic or requests for ROW authorizations for transmission lines.

Limitations on land tenure adjustments, which allow the BLM and Forest Service to sell, exchange, withdraw, or acquire lands to increase management effectively, would be the most restrictive under Alternative C and the least restrictive under Alternatives A, E, and F. Alternatives B and D would allow land sales under certain conditions.

National policies to mitigate climate change through the expansion of renewable energy production could contribute to direct and indirect long-term cumulative impacts on the lands and realty program and be affected by management under Alternatives B through F.

As part of the 2013 Climate Action Plan, President Obama set a new energy goal of 10 new gigawatts of new renewable energy permitted on DOI lands by 2020 (The White House 2013). Despite wind energy potential in the planning area being moderate (NREL 2009) and solar resources being moderate to low (NREL 2005), the President's plan is expected to increase the demand for renewable energy ROWs.

The potential for cumulative impacts on wind energy ROW development in the planning area would be greatest under Alternative C, which would restrict renewable energy ROW development in PPMAs and PGMAs. Impacts on wind and solar ROWs under Alternatives B, D, and F would be less than under Alternative C but greater than under Alternatives A and E. Alternatives A, B, C, and F would force wind energy ROWs outside GRSG habitat, thereby increasing the potential for indirect effects in the planning areas, such as requests for new transmission line ROWs and access roads.

4.16.10 Leasable Minerals

Fluid Minerals

Past, present, and reasonably foreseeable future actions and conditions within that have affected and will likely continue to affect fluid minerals are existing and planned oil and gas development projects on nonfederal mineral estate within the planning area.

Alternatives Analysis

The management actions proposed under this LUPA/EIS would cumulatively impact mineral development through surface use restrictions (e.g., closures and NSO, CSU, and TL

stipulations). This ultimately would decrease the amount of oil and gas development in the planning area during the planning period. Surface use restrictions, such as NSO restrictions, could also cause an operator to move to nearby private or state land with no such restrictions. Table 4-76, Oil and Gas Development Potential in the Planning Area, shows the acres of oil and gas resources in the planning area by level of potential (medium or low).

Table 4-76
Oil and Gas Development Potential in the
Planning Area

Development Potential	Acres
Medium	984,450
Low	31,120,980

Under Alternative A, 83,650 acres with medium development potential (8 percent of the federal oil and gas estate with medium development potential) would remain closed to oil and gas leasing, and approximately 400,600 acres of federal oil and gas estate with medium development potential (41 percent of the federal oil and gas estate with medium development potential) would remain open to leasing subject to NSO stipulations. Management under Alternatives B and F would close 344,300 acres with medium potential (35 percent of the medium potential acres in the decision area), and 330,400 acres with medium potential would be subject to NSO stipulations.

Under Alternative C, 513,700 acres (52 percent) of minerals with medium oil and gas potential, would be closed, and 222,900 acres (22 percent), would be subject to NSO stipulations. Under Alternative D, 86,000 unleased acres with medium development potential (10 percent of total unleased acres with medium development potential in the oil and gas decision area) would be closed to leasing, and 421,800 acres (47 percent) of unleased areas with medium development potential would be subject to NSO stipulations..

Under Alternative E, 86,000 unleased acres with medium development potential (10 percent of total unleased acres with medium development potential in the oil and gas decision area) would be closed to leasing. Approximately 550,400 acres (62 percent) of unleased areas with medium development potential would be subject to NSO stipulations.

Of all the alternatives, Alternative C would close the most acres with medium oil and gas potential to fluid mineral leasing: a 600 percent increase over Alternatives A or E.

Geothermal Resources

Past, present, and reasonably foreseeable future actions and conditions that have affected and will likely continue to affect renewable energy are the construction of existing and proposed roads and transmission lines. This would increase the routing options and possibly reduce project construction or implementation costs. GRSG conservation measures would not contribute to cumulative impacts since the above-identified effects would benefit renewable energy development.



4.16.11 Locatable Minerals

Past, present, and reasonably foreseeable future actions and conditions that have affected and will likely continue to affect locatable minerals are existing and planned locatable mineral operations on nonfederal mineral estate within the planning area.

Alternatives Analysis

The cumulative impacts analysis area for locatable minerals is the planning area.

Alternatives A, D, and E would continue to manage 36,600 acres (2 percent) of minerals in the planning area with high likelihood of locatable mineral interest as withdrawn from locatable mineral entry. Alternative B would withdraw or recommend for withdrawal 237,400 acres (10 percent) of minerals in the planning area with a high likelihood of interest. The increase from Alternative A would represent 8 percent of the planning area. Alternative C would withdraw or recommend for withdrawal 369,600 acres (16 percent) of minerals in the planning area with a high likelihood of interest. The increase from Alternative A to Alternative C would represent 14 percent of the planning area. Alternative C would withdraw or recommend for withdrawal more acres than any other alternative.

4.16.12 Mineral Materials

Past, present, and reasonably foreseeable future actions and conditions that have affected and will likely continue to affect mineral materials are existing and planned mineral material development projects on nonfederal mineral estate within the planning area. There are five planned mineral materials projects in the planning area, all of which are on federal minerals.

Alternatives Analysis

The cumulative impacts analysis area for mineral materials is the planning area. It covers 52,000,000 acres total, regardless of surface or mineral ownership. Under Alternative A, 707,200 acres in the planning area would be closed to mineral material disposal (1 percent of the planning area). Under Alternative B, 8,251,300 acres would be closed to mineral material disposal (16 percent of the planning area). Under Alternative C, 10,939,800 (21 percent of the planning area); under Alternative D, 3,046,400 (6 percent); under Alternative E, 710,700 (1 percent); and under Alternative F, 8,265,300 (16 percent). Alternative C would close the most acres to mineral material disposal out of all the alternatives. The increase in closed acres from Alternative A (which would close the fewest acres/hectares) represents 20 percent of the planning area.

4.16.13 Nonenergy Leasable Minerals

Past, present, and reasonably foreseeable future actions and conditions that have affected and will likely continue to affect nonenergy leasable minerals are existing and planned nonenergy leasable development projects on nonfederal mineral estate. There are two planned phosphate mines on nonfederal mineral estate, in addition to the three planned mines on federal mineral estate in the planning area.

Alternatives Analysis

The cumulative impacts analysis area for nonenergy leasable minerals is the planning area. It contains 34,000 acres of unleased known phosphate leasing areas (KPLAs). Under Alternatives A and E, 3,720 acres (11 percent) of unleased minerals in the planning area within KPLAs, would be closed to nonenergy solid mineral leasing; 620 acres (2 percent), would be open, subject to NSO stipulations.

Under Alternatives B, D and F, 3900 acres (11 percent) would be closed; under Alternative C, 4,400 acres (13 percent) would be closed. . Under Alternatives B and F, 580 acres would be open subject to NSO stipulations; under Alternative C, 400 acres would be open subject to NSOs; and under Alternative D, 630 acres would be open subject to NSOs.

Of all the alternatives, alternative C represents the largest closure of unleased KPLAs. However, the increase in acres closed compared with Alternatives A and F (which would have the fewest acres closed) would make up only two percent of the total KPLAs in the planning area.

4.16.14 Special Designations

Past, present, and reasonably foreseeable future actions and conditions that have affected and will likely continue to affect ACECs include any action that would impact the relevant and important values for which the ACEC is established (e.g., GRSG habitat health). Such actions include surface-disturbing activities, wildfires, increased recreation demands, and climate change.

Cumulative impacts on existing ACECs under the various alternatives could result from non-BLM actions and decisions on lands next to ACECs. While protections exist within the ACECs, population growth, development, and recreation throughout the planning area could, over time, encroach on these areas. This could degrade the ACEC values, such as unauthorized off-route travel and trash dumping and increased noise and air and light pollution. Other impacts include species displacement, habitat fragmentation, and changes to the visual landscape that could affect resources within ACECs. Impacts are greater where recreation areas or development are next to an ACEC.

There are several ROW road applications and new transmission lines pending within the planning area. If these roads, transmission lines, or facilities were to run through, or be next to, any of the ACECs, this could damage the relevant and important values for which these ACECs are designated. Future road ROW applications, transmission line construction, and energy development in the planning area could cumulatively impact existing ACECs. Examples of long-term impacts on the ACEC from these activities are noise, heavy vehicle traffic, and dust.

Climate change could also pose a long-term threat of cumulative impacts on the relevant and important values of ACECs. Cumulative impacts on GRSG habitat and, consequently, on the ACEC from climate change are vegetation regime changes (e.g., from sagebrush to grasslands) and increased wildfire potential due to drought (Connelly et al. 2004).



Alternatives Analysis

All action alternatives would restrict such activities as ROW development, grazing, mineral entry, and new road construction, which could provide indirect protections to ACECs. However, existing and future ROWs, oil and gas development, and travel routes could result in cumulative impacts on ACECs.

ACECs for which GRSG is an important and relevant value could experience more protections and could have more restrictions on resource uses and surface-disturbing activities than ACECs that do not identify GRSG as an important and relevant value. No existing ACECs identify GRSG as an important and relevant value, and under Alternatives C and F, new ACECs (and ZAs under Alternative F) would be created for the important and relevant value of GRSG. The ACECs under Alternatives C and F (and ZAs under Alternative F) would be less likely to experience cumulative degradation to their important and relevant values due to management actions focused on GRSG conservation.

The BLM would adaptively manage to protect ACEC values and minimize impacts where applicable and feasible.

4.16.15 Lands with Wilderness Characteristics

Past, present, and reasonably foreseeable future actions and conditions that have affected and will likely continue to affect lands with wilderness characteristics are wildfires, wildland fire management, energy development, mining, noxious weed invasion, increased recreation demand, and road construction.

Many past, present, and reasonably foreseeable actions have impacted or could impact lands with wilderness characteristics. For example, continued travel management and recreation development in the planning area will likely increase visitor use on BLM-administered lands, including lands with wilderness characteristics. This could impact wilderness characteristics by reducing opportunities for solitude. Development of energy and minerals resources could introduce sights, noises, and infrastructure in or next to lands with wilderness characteristics, which could impair the feeling of solitude and degrade naturalness. In addition, vegetation management on public and private lands could alter landscape appearance and setting in the short and long term, protecting or degrading wilderness characteristics, depending on the activity. Cumulative impacts on lands with wilderness characteristics would be mitigated where management actions governing other resources threaten wilderness characteristics.

Alternatives Analysis

Cumulative impacts would be most likely to damage lands with wilderness characteristics under Alternative A. This is because the fewest restrictions on present and future resource uses are in place under this alternative. Management under the action alternatives would protect wilderness characteristics to some degree by restricting development and land uses that could degrade the characteristics. Such restrictions would indirectly limit cumulative impacts on wilderness characteristics. Alternatives C and F place broader and more stringent restrictions on allowable uses of resources in GRSG habitat. Consequently, these alternatives would provide more indirect protections to lands with wilderness characteristics and would be less likely to have cumulative impacts that would degrade those characteristics.

4.16.16 Social and Economic Conditions (Including Environmental Justice)

The cumulative impact analysis area used to analyze potential impacts on social and economic conditions consists of the counties identified as the primary and secondary socioeconomic study area.

Virtually every major government action has some influence on social and economic conditions, as government actions have the power to create or alter incentives for numerous individuals and businesses who make choices that affect employment, earnings, population demographics, and other variables of concern for social and economic conditions. Past, present, and reasonably foreseeable future actions and conditions have affected and will likely continue to affect social and economic conditions, including livestock grazing, recreation, lands and realty, transportation, ROWs, renewable energy development, and mineral development. Changes to social and economic conditions result when individuals, businesses, governments, and other organizations initiate actions. Over the next several decades, millions of decisions will be made by tens of thousands of residents of the counties in the socioeconomic study area and others that will affect trends in employment, income, housing, and property.

Projections published by the Idaho Department of Labor and the Montana Department of Labor and Industry account for these individual decisions in the aggregate, and provide a baseline for comparing effects of alternatives in the future. The projections represent a regional forecast taking a wide range of actions into account, including management actions by the BLM and Forest Service as well as many other government entities, private citizens, and businesses. As a result, these projections incorporate the past, present, and reasonably foreseeable future projects that will form the basis of future economic and social trends in the cumulative impact analysis area. Current and future trends in the cumulative impact analysis area include population growth, demographic change, changes in recreational demand and availability of recreational opportunities, renewable energy development, livestock grazing, housing development policies, mining, and other activities.

The Idaho Department of Labor provides employment projections from 2010 to 2020, for six regions across the state. Four overlap with the study area:

- Southwest Idaho (includes primary study area counties of Adams, Elmore, Gem, Owyhee, Payette, and Washington; secondary study area counties of Ada, Boise, and Canyon; and also Valley County) – projected increase of 18.6 percent
- South-Central Idaho (includes Blaine, Camas, Cassia, Gooding, Jerome, Lincoln, Minidoka and Twin Falls, all of which are in the primary study area) – projected increase of 19.7 percent
- Southeast Idaho (includes primary study area counties of Bear Lake, Bingham, Caribou, Oneida and Power; Bannock County in the secondary study area; and also Franklin County) – projected increase of 14.4 percent



- Eastern Idaho (includes Bonneville, Butte, Clark, Custer, Fremont, Jefferson, Lemhi, and Madison counties, all of which are in the primary study area, and also Teton County) – projected increase of 15.9 percent (Idaho Department of Labor, 2013)

Similarly, the Montana Department of Labor and Industry projects employment growth in upcoming years, with the current projections reflecting forecasted conditions in 2020, for five regions in the state. The relevant region for this EIS is the Southwest Region, which contains Beaverhead and Madison (in the primary study area), Gallatin and Silver Bow (in the secondary study area), and nine other counties: Deer Lodge, Granite, Park, Powell, Lewis and Clark, Broadwater, Sweetgrass, Meagher, and Jefferson. From 2011 to 2020, the Montana Department of Labor and Industry projected employment in that region to increase about 11 percent (Montana Department of Labor and Industry 2011).

To provide information about the cumulative impacts of the alternatives in this draft LUPA/EIS, the BLM compared the projected employment differences associated with the alternatives with the forecasts of the Idaho and Montana labor agencies as described above. As described in **Chapter 4**, some of the predicted employment and income effects of the actions considered in this EIS were able to be quantified; where possible, BLM and Forest Service used IMPLAN, a regional economic model, to calculate indirect and induced impacts of these actions.

Table 4-77, Projected Employment by Alternative for Primary Socioeconomic Study Area, provides an overview of how forecasted changes in employment from the alternatives would occur within the context of the ten-year trend of employment to 2020. Because Alternative A represents current management plans, employment would correspond most closely to the existing forecasts. By contrast, employment under Alternatives B through F would be expected to change from the projections, with the best estimate for those changes being the quantities shown in **Chapter 4**, Environmental Consequences. Thus, **Table 4-77** shows the estimated change in employment for these alternatives, based on modifying the projected future employment by the estimated changes for the socioeconomic study area (from IMPLAN). The table focuses on the primary socioeconomic study area because the great majority of impacts occur in that area, and adding the secondary study area would effectively dilute the magnitude of impacts by adding a large employment base (especially from more urban counties) without adding substantially to the impacts.

Table 4-77
Projected Employment by Alternative for Primary Socioeconomic Study Area

Item	Alt. A	Alt. B	Alt. C	Alt. D	Alt. E	Alt. F
Employment (2010) ¹	309,620	309,620	309,620	309,620	309,620	309,620
Average annual change in future employment related to grazing ²	N/A	0	-997	0	0	-259

Table 4-77
Projected Employment by Alternative for Primary Socioeconomic Study Area

Item	Alt. A	Alt. B	Alt. C	Alt. D	Alt. E	Alt. F
Average annual change in future employment related to recreation ²	N/A	109	-1,180	331	331	-953
Average annual change in future employment related to wind energy development ²	N/A	-51	-51	-51	See notes ³	0
Overall change in 2020 employment	N/A	58	-2228	280	280	-1212
Projected 2020 employment ⁴	356,063	356,121	353,835	356,343	356,343	354,851
% change, 2010 to 2020	15.0%	15.0%	14.3%	15.1%	15.1%	14.6%

Source: Idaho Department of Labor (2013) and Montana Department of Labor and Industry (2011) (projected employment data), modified by estimates from IMPLAN reported in **Chapter 4, Section 4.14**, Social and Economic Impacts (Including Environmental Justice). Changes related to specific sectors include direct, indirect, and induced effects from IMPLAN; see **Appendix R**, Economic Impact Analysis Methodology, for a detailed description of this model.

1. Employment in 2010 in the primary socioeconomic study area from **Chapter 3, Section 3.22**, Social and Economic Conditions (Including Environmental Justice).
2. The values for livestock grazing, recreation, and wind energy development are those shown in **Chapter 4, Section 4.14**, Social and Economic Impacts (Including Environmental Justice). The values for wind include permanent (operation phase) jobs but not temporary construction jobs.
3. As noted in **Chapter 4, Section 4.14**, Social and Economic Impacts (Including Environmental Justice), Alternative E could limit future wind energy development, with some development possible, depending on fulfillment of criteria established by the alternative. For this analysis, to be conservative and show maximum potential impact, it is assumed that wind energy development would not occur in Alternative E.
4. Based on the projected employment increase for the four Idaho regions and southwest Montana, a conservative (i.e., lower range) estimate for employment growth would be about a 15 percent increase from 2010 to 2020. This results in an estimate of about 356,063 jobs (for Alternative A), which is then modified based on the results of the IMPLAN analysis for each alternative.

Changes in employment, especially in Alternatives C and F, would have a measurable effect on future employment, according to this analysis. Employment changes related to livestock grazing and recreation – including sectors that support and are supported by these activities – account for the majority of this effect in both Alternative C and Alternative F. In Alternatives A, B, D, and E, employment would increase by about 15 percent, or slightly more in Alternatives D and E due to projected increases in recreation activity. In Alternatives C and F, employment growth would be somewhat smaller, but these reductions would be relatively small given the size of the study area and the uncertainty associated with a long-term forecast.

Of the effects documented in **Section 4.14**, Social and Economic Conditions (Including Environmental Justice), the impact that most exacerbates current economic challenges is the potential for several of the management alternatives to result in increased costs for livestock grazing operators. Long-term trends including changing market conditions, consolidation supported by economies of scale, demographic change, and environmental concerns have



resulted in increasingly challenging economic conditions for ranch operators, especially smaller operators.

Increased costs due to restrictions on vegetation treatments, range improvements, OHV travel, and other management elements could exacerbate existing trends and create additional, cumulative impacts for the livestock grazing and ranching sector. This could have economic impacts over and above those identified in **Table 4-77** and could also result in social impacts since the grazing and ranching industry has been relatively influential in terms of establishing community character, identity, and social values, particularly in certain areas within the study area.

All of the alternatives would have some degree of cumulative social and economic impact related to grazing. Although AUMs would be reduced only in Alternatives C and F, Alternatives B, D and E would also entail changes to management that could increase costs or decrease the flexibility of ranchers to manage their animals.

In terms of geographic regions, the cumulative effects on livestock grazing operators would occur throughout the socioeconomic study area but would be most important in Cassia, Gooding, Jefferson, Lincoln, and Owyhee Counties, Idaho, based on the importance of grazing within the economy of those counties.

Another effect identified in **Section 4.14** that could lead to a cumulatively considerable contribution to impacts would be impacts on recreation (in Alternatives C and F), especially in counties where recreation contributes substantially to the local economy, which are identified in **Section 4.14** as Madison County in Montana and Blaine County in Idaho.

Other effects would not be expected to contribute to cumulative effects. From a cumulative effects standpoint the economic and social impacts of these changes would be relatively minor and do not particularly exacerbate existing trends in the study area.

4.17 The Relationship Between Short-Term Uses of the Human Environment and Maintenance and Enhancement of Long-Term Productivity

This section compares the potential temporary effects of the alternatives analyzed in this LUPA/EIS on the environment with the potential effects on its long-term productivity. The BLM and Forest Service must consider the degree to which the action alternatives would sacrifice a resource value that might benefit the environment in the long term for some temporary value to the proponent or the public.

Implementation of the action alternatives would restrict the use of the environment for mineral extraction, energy projects, livestock grazing, recreation, and lands and realty authorizations. These restrictions would protect soils, vegetation, water quality and supplies, air quality, and visual resources. These measures would also maintain the storage of any such mineral or energy resources for potential future use beyond the timeframe of the restrictions outlined in the action alternatives.

For as long as the LUPA is valid, regional economies could experience decreased economic activity from these restrictions. This is because there would be decreases in income-generating livestock grazing and fewer employment opportunities related to construction and energy extraction. However, such economic activity could be restored to these lands through future changes in their management, with a subsequent NEPA analysis.

Implementation of the Alternative A would require fewer resource protections and would allow for greater productivity of the lands.

4.18 Irreversible and Irretrievable Commitment of Resources

NEPA Section 102(2)(C) and Section 1502.16 of the CEQ NEPA implementing regulations require that the discussion of environmental consequences include a description of “...any irreversible or irretrievable commitment of resources which would be involved in the proposal should it be implemented.”

An irreversible commitment of a resource is one that cannot be reversed or cannot be renewed within a reasonable timeframe. Extinction of a species or disturbance to cultural resources would constitute irreversible impacts, as would extraction of sand, gravel, or oil or gas because these minerals cannot be renewed in the ground within a reasonable timeframe.

An irretrievable commitment of a resource occurs when the resource or its use is lost for a period. For example, a decision not to treat juniper encroachment into adjacent sagebrush habitat results in the irretrievable loss of forage production from the grassland community. This action is not irreversible because a treatment applied to the encroaching juniper could restore the forage production of the sagebrush habitat.

The decision to select one of the six alternatives described in this Draft LUPA/EIS does not constitute an irreversible or irretrievable commitment of resources because the decision does not authorize implementation-level activities. Instead, decisions made under the selected alternative serve to guide future actions and subsequent site-specific decisions. Following the signing of the ROD for the LUPA, the BLM and Forest Service will develop and implement implementation plans (activity- or project-specific). Implementation decisions require appropriate project-specific planning and NEPA analysis and constitute BLM and Forest Service final approval authorizing on-the-ground activities to proceed. Overall, the action alternatives analyzed in this EIS are protective of resources over existing conditions and would not subject any of them to irreversible or irretrievable commitments.

4.19 Unavoidable Adverse Impacts

NEPA Section 102(C) also mandates disclosure of “any adverse environmental effects which cannot be avoided should the proposal be implemented.” These are impacts for which there are no mitigation measures or impacts that remain even after the implementation of mitigation measures.

Implementation of the LUPA along the theme of the action alternatives would not result in unavoidable adverse impacts on any resources. Conversely, proposed restrictions on some



activities, such as OHV use, energy development, and livestock grazing intended to protect sensitive resources and resource values, would result in unavoidable adverse impacts on some users, operators, and permittees by limiting their ability to use BLM- and Forest Service-administered lands and potentially increasing their operating costs.

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Chapter 5

Consultation and Coordination



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Chapter 5. Consultation and Coordination

5.1 Introduction

This chapter describes the efforts undertaken by the BLM and Forest Service throughout the process of developing the LUPA and draft EIS to ensure the process remained open and inclusive to the extent possible. This chapter also describes efforts taken to comply with legal requirements to consult and coordinate with various government agencies. These efforts include public scoping; identifying and designating cooperating agencies; consulting with state, local, and tribal governments; and determining whether the draft LUPA/EIS is consistent with tribal, state, local, and county plans.

The BLM and Forest Service land use planning activities are conducted in accordance with NEPA requirements, CEQ regulations, and US Departments of the Interior and Agriculture policies and procedures implementing NEPA, as well as specific BLM and Forest Service planning and NEPA policies. The NEPA and associated laws, regulations, and policies require the BLM and Forest Service to seek public involvement early in and throughout the planning process to develop a reasonable range of alternatives to proposed actions and to prepare environmental documents that disclose the potential impacts of proposed alternatives.

Public involvement and agency consultation and coordination have been at the heart of the planning process leading to this draft LUPA/EIS. These efforts were achieved through Federal Register notices, public and informal meetings, individual contacts, media releases, planning bulletins, and a series of GRSG planning-related Web sites. This chapter documents the outreach efforts that have occurred to date. Additional efforts will continue as the planning process continues and the Proposed LUPA and Final EIS are prepared.

5.2 Public Involvement

In accordance with CEQ scoping guidance, the BLM and Forest Service provided opportunities for public involvement as an integral part of amending the LUPs and preparing the EIS. CEQ scoping guidance (1981) defines scoping as the process by which lead agencies solicit input from the public and interested agencies on the nature and extent of issues and impacts to be addressed and the methods by which they will be evaluated. The scoping comment summary report, which summarizes comments received during the scoping process, is available on the BLM's National GRSG Web site at http://www.blm.gov/wo/st/en/prog/more/sagegrouse/documents_and_resources.html.

The intent of the scoping process is to provide an opportunity for the public, tribes, other government agencies, and interest groups to learn about the project and provide input on the planning issues, impacts, and potential alternatives that will be addressed in the EIS, and the extent to which those issues will be analyzed. In general, public involvement during scoping assists the agency through the following:

- Broadening the information base for decision-making

- Informing the public about the EIS and proposed LUPAs and the potential impacts associated with various management decisions
- Ensuring public needs and viewpoints are brought to the attention of the agency
- Determining the scope and the significant issues to be analyzed in depth in the EIS

5.2.1 Scoping Period

The scoping period for the Idaho and Southwestern Montana Sub-region LUPA/EIS began with the publication of the NOI in the Federal Register on December 9, 2011, and ended on March 23, 2012. The scoping period provides an opportunity for the public to identify potential planning issues and concerns associated with the LUP amendments and EIS. Information obtained by the BLM and Forest Service during scoping is combined with issues identified by the agencies to form the scope of the EIS.

5.2.2 Public Notification of Scoping

A press release was made available on the national, Great Basin Region, and Rocky Mountain Region Web sites on December 8, 2011, announcing the scoping period for the EIS process. A similar press release was also sent out from the BLM Idaho State Office on January 5, 2012. The press releases provided information on the scoping open houses being held (see *Public Scoping Open Houses* below) and described the various methods for submitting comments. A second press release was posted on the project Web sites on February 7, 2012, announcing the extension of the public scoping period to March 23, 2012. A newsletter was also sent out to the mailing list as described below (see Newsletter and Mailing List).

In addition to news releases and other notifications from the BLM and Forest Service regarding the scoping process, some members of the public received notification from other sources. Several articles were published in local newspapers, including in the Times New on January 28, 2012, and the Idaho Mountain Express on February 29, 2012.

The national GRSG conservation Web site (see Web site below) provides background information on the project, a description of the scoping process and meeting locations, instructions on how to submit comments, and copies of public information documents such as the NOI. The Web site is one of the methods used to communicate project news and updates to the public. The Web site is available on the Internet at <http://www.blm.gov/sagegrouse.html>.

5.2.3 Public Scoping Open Houses

The BLM and Forest Service hosted six open houses throughout the Idaho and Southwestern Montana Sub-region to provide the public with opportunities to become involved, learn about the project and the planning process, meet the planning team members, and offer comments. Where possible, representatives from the USFWS and state fish and game agencies also attended. The open houses were advertised via press releases,



the project newsletter, and the project Web sites. The locations of the open houses are provided in **Table 5-1**, Idaho and Southwestern Montana Sub-region Scoping Open Houses.

Table 5-1
Idaho and Southwestern Montana Sub-region Scoping Open Houses

Location	Venue	Date	Number of Attendees
Idaho			
Boise	Red Lion Boise Hotel	January 9, 2012	110
Idaho Falls	Red Lion Hotel	January 10, 2012	63
Salmon	Salmon Valley Business & Innovation Center	January 11, 2012	63
Twin Falls	Canyon Springs Red Lion Inn	January 25, 2012	87
Pocatello	The Clarion	January 26, 2012	58
<i>Idaho Total</i>			<i>381</i>
Montana			
Dillon	National Guard Armory	January 12, 2012	47
<i>Montana Total</i>			<i>47</i>
Idaho and Southwestern Montana Sub-region Total			428

Scoping meetings were held in an open house format to encourage participants to discuss concerns and questions with the BLM and Forest Service and other agency staff representatives. Copies of scoping information, as well as blank scoping comment forms, were available at the sign-in station. Resource stations displayed maps to illustrate the planning area under consideration, GRSG habitat and bird densities, resource uses (e.g., rights-of-way, energy, livestock grazing, and recreation), and resource conditions (e.g., vegetation and wildland fire). At those stations, fact sheets for various topics (e.g., planning process, purpose and need, preliminary planning issues, preliminary planning criteria, GRSG conservation, biology and habitat, and threats to GRSG) provided an overview of current management practices and issues.

5.2.4 Other Public Involvement

Newsletter and Mailing List

In December 2011, the BLM and Forest Service mailed a newsletter announcing the start of the public scoping period for the Great Basin EISs, including the Idaho and Southwestern Montana Sub-region, to more than 14,000 individuals from the public, agencies, and organizations who had participated in past BLM and Forest Service activities and had been included on past BLM and Forest Service distribution lists. The newsletter provided background information and an overview of the National GRSG Planning Strategy, the dates and venues for the scoping open houses (see Public Scoping Open Houses above), and the various methods for submitting comments, including dedicated email and postal addresses. In December 2012, the BLM and Forest Service mailed a postcard providing a notification of updates to the national Web site.

The BLM and Forest Service will publish future newsletters at major project milestones and will mail them to individuals and organizations that have requested to remain on or be added to the project mailing list. All newsletters will be made available on the national or regional project Web sites. Participants may request to receive newsletters and other project information through electronic or postal mail.

Web Site

The BLM launched a national GRSG conservation Web site as part of the agency's efforts to maintain and restore GRSG habitat on BLM-administered lands. The site is intended to make it easy to find out about how the BLM and Forest Service are working on maintaining and restoring GRSG habitat, and includes background information related to governmental and the BLM and Forest Service roles in GRSG conservation. The Web site is available on the Internet at <http://www.blm.gov/sagegrouse.html>.

The BLM has also launched a regional Web site for the Great Basin Region. This site is regularly updated to provide the public with the latest information about the EIS processes in the region. The regional Web site provides background information about the project, a public involvement timeline, maps of the planning areas, and copies of public information documents such as the newsletter and NOI. The site also provides a description of how to submit comments about the EIS process, including a link to the scoping comment email address. The dates and locations of scoping open houses were also announced on the regional Web site. The Great Basin Region Web site is available on the Internet at <http://www.blm.gov/wo/st/en/prog/more/sagegrouse/western.html>. A link to this Web site is also provided on the National Web site.

5.2.5 Future Public Involvement

Public participation efforts will be ongoing throughout the remainder of the Idaho and Southwestern Montana Sub-region LUPA planning process. One substantial part of this effort is the opportunity for members of the public to comment on this Draft LUPA/EIS during the comment period. The Proposed LUPA/Final EIS will respond to all substantive comments received during the 90-day comment period. One ROD for each agency will then be issued by the BLM and Forest Service after the release of the Proposed LUPA/Final EIS, the Governor's Consistency Review, and any resolution of protests received on the Proposed LUPA/Final EIS.

5.3 Consultation and Coordination

Various federal laws require the BLM to consult with Native American tribes, the State Historic Preservation Office, and USFWS, the US Environmental Protection Agency, and the US Department of Defense during the planning/NEPA decision-making process. This section documents the specific consultation and coordination efforts undertaken by the BLM throughout the process of developing the draft LUPA/EIS.

5.3.1 Cooperating Agencies

A cooperating agency is any federal, state, or local government agency or Native American tribe that enters into a formal agreement with the lead federal agency to help develop an environmental analysis. Cooperating agencies and tribes “work with the BLM, sharing knowledge and resources, to achieve desired outcomes for public lands and communities within statutory and regulatory frameworks” (BLM 2005). The Forest Service defines collaboration as, “People working together to share knowledge and resources to describe and achieve desired conditions for National Forest System lands and for associated social, ecological, and economic systems in a plan area. Collaboration applies throughout the planning process, encompasses a wide range of external and internal relationships, and entails formal and informal processes” (Forest Service 2006). The benefits of enhanced collaboration among agencies in preparing NEPA analyses are:

- Disclosing relevant information early in the analytical process
- Applying available technical expertise and staff support
- Avoiding duplication with other federal, state, tribal, and local procedures
- Establishing a mechanism for addressing intergovernmental issues

The Idaho and Southwestern Montana Sub-region invited local, state, federal, and tribal representatives to participate as cooperating agencies for this LUPA/EIS. **Table 5-2**, Idaho and Southwestern Montana Sub-region Cooperating Agency Participation, provides the list of invited and accepted cooperating agencies for the sub-region. Agencies accepting invitations to be cooperating agencies sign an MOU with the BLM. The MOU outlines the interests, expertise, and jurisdictional responsibilities of both the agency and its cooperating agency partners and also outlines their respective roles and responsibilities in the planning and NEPA processes.

Table 5-2
Idaho and Southwestern Montana Sub-region Cooperating Agency Participation

Agencies and Tribes Invited to be Cooperators	Accepted
Adams County Commissioners	
Bannock County Commissioners	
Bear Lake County Commissioners	
Beaverhead County Commissioners	✓
Beaverhead-Deerlodge National Forest	✓
Bingham County Commissioners	✓
Blackfeet Tribe of the Blackfeet Indian Reservation of Montana	
Blaine County Commissioners	✓
Boise County Commissioners	
Boise National Forest	✓
Bonneville County Commissioners	
Bureau of Indian Affairs	

Table 5-2
Idaho and Southwestern Montana Sub-region Cooperating Agency
Participation

Agencies and Tribes Invited to be Cooperators	Accepted
Bureau of Reclamation	
Butte County Commissioners	
Camas County Commissioners	
Canyon County Commissioners	
Caribou County Commissioner	
Caribou-Targhee National Forest	✓
Cassia County Commissioners	✓
Clark County Commissioners	✓
Coeur d'Alene Tribe	
Confederated Salish and Kootenai Tribes	
Craters of the Moon National Monument	✓
Custer County Commissioners	✓
Eastern Shoshone Tribe	
Elmore County Commissioners	
Franklin County Commissioners	
Fremont County Commissioners	✓
Gem County Commissioners	
Gooding County Commissioners	
Idaho Association of Counties	✓
Idaho Department of Agriculture	
Idaho Department of Environmental Quality	
Idaho Department of Fish and Game	✓
Idaho Department of Lands	
Idaho Department of Parks and Recreation	
Idaho Department of Transportation	
Idaho Governor's Office of Species Conservation	✓
Idaho National Guard	✓
Jefferson County Commissioners	✓
Jerome County Commissioners	
Kootenai Tribe of Idaho	
Lemhi County Commissioners	✓
Lincoln County Commissioners	
Madison County Commissioners	✓
Minidoka County Commissioners	
Mountain Home Air Force Base	
Montana Fish, Wildlife and Parks	✓
Natural Resources Conservation Service	✓
Nez Perce Tribe	
Oneida County Commissioners	
Owyhee County Commissioners	✓
Payette County Commissioners	
Power County Commissioners	✓
Salmon-Challis National Forest	✓

Idaho and Southwestern Montana Sub-Region Greater Sage-Grouse LUPA/EIS
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Table 5-2
Idaho and Southwestern Montana Sub-region Cooperating Agency
Participation

Agencies and Tribes Invited to be Cooperators	Accepted
Sawtooth National Forest	✓
Shoshone-Bannock Tribes	
Shoshone-Paiute Tribes	
Teton County Commissioners	
Twin Falls County Commissioners	✓
USDA APHIS Plant Protection and Quarantine	
USDA APHIS Wildlife Services	
US Department of Defense	✓
US Department of Energy (INL)	✓
US Fish and Wildlife Service	✓
USGS (Forest and Rangeland Ecosystem Science Center)	
Washington County Commissioners	

Cooperating agencies have been involved throughout the planning process with monthly conference calls providing project updates. In addition, cooperating agencies were given advance review of LUPA/EIS sections. Cooperating agencies will continue to be engaged throughout the planning process.

5.3.2 USFWS Section 7 Consultation

Consultation with the USFWS is required under Section 7(c) of the ESA prior to initiation of any project by the BLM or Forest Service that may affect any federally listed or endangered species or its habitat. This LUPA planning process is considered to be a major project, and the draft EIS describes potential impacts on threatened and endangered species as a result of management actions proposed in the alternatives. The USFWS is a cooperating agency in this planning process, and USFWS staff have participated in interdisciplinary team meetings and have been provided drafts of alternative decisions for discussion and input.

When the BLM and Forest Service identify a proposed alternative in the final EIS, the BLM and Forest Service will prepare a draft biological assessment that evaluates the impacts of the proposed alternative on federally listed threatened and endangered species. The draft biological assessment will be submitted to USFWS for review. For each listed species, the BLM and Forest Service will provide a determination of whether the implementation of the Proposed LUPA/Final EIS “may affect” the species on which this consultation occurred. At that point, USFWS may either concur with the determination via memorandum or prepare a biological opinion. The USFWS response to this consultation process (either the memorandum or the biological opinion) will be included in the final EIS.

Consultation with USFWS will continue throughout the development of the LUPA and its implementation. This portion of Chapter 5 will be updated in the final EIS to reflect continuing consultation efforts.

5.3.3 Native American Tribal Consultation

In accordance with the National Historic Preservation Act and several other legal authorities (see BLM Manual 8120), and in recognition of the government-to-government relationship between individual tribes and the federal government, the BLM has initiated Native American consultation efforts related to preparation of this LUPA. In December 2011, the BLM sent letters to tribal governments providing initial notification of the LUPA and background information on the project, an invitation to be a cooperating agency, and notification of subsequent consultation efforts related to the planning process. These letters were sent to the following tribes located in Idaho or southwestern Montana or having cultural ties to areas with GRSG habitat in the sub-region:

- Blackfoot Tribe of the Blackfoot Indian Reservation of Montana
- Coeur d'Alene Tribe
- Confederated Salish and Kootenai Tribes
- Eastern Shoshone Tribe
- Kootenai Tribe of Idaho
- Nez Perce Tribe
- Shoshone-Bannock Tribes
- Shoshone-Paiute Tribes

None of the tribes have agreed to become cooperating agencies. The Shoshone-Bannock and Shoshone-Paiute tribes requested regular briefings at key milestones during the planning process. Per their request, BLM staff provided early drafts of some project documents for their review and comment under the government-to-government relationship. Other tribes have requested to be kept informed as the LUPA/EIS is developed, so that they may have an opportunity to comment. The complete draft LUPA/EIS was provided to the tribes concurrently with its release to the public. Government-to-government consultation will continue throughout the LUPA process to ensure that tribal groups' concerns are considered during development of the Proposed LUPA/Final EIS. This portion of Chapter 5 will be updated in the final EIS to reflect continuing consultation efforts with the Native American tribes.

5.1.1 State Historic Preservation Officer Consultation

As part of the NEPA scoping and consultation process, BLM and the Forest Service have notified the Idaho and Montana State Historic Preservation Officers and several Tribal Historic Preservation Officers of the proposed LUPA. However, full formal NHPA Section 106 consultation is not called for at this time, as effects on historic properties cannot be determined until site-specific follow-on projects have been identified. The Section 106 process will be completed at a later stage, during project proposal and design, and will include consultation with SHPOs, THPOs, Native American Tribes, and other interested parties. This process will be performed consistent with the alternative procedures BLM



agreed to in a Programmatic Agreement with the Advisory Council on Historic Preservation and the National Conference of State Historic Preservation Officers. Any future actions not covered by the BLM's national Programmatic Agreement may require either (a) separate NHPA analysis, or (b) a separate Section 106 agreement.

5.1.2 US Environmental Protection Agency

NEPA regulations require that EISs be filed with the US Environmental Protection Agency for review and comment (40 CFR 1506.9). The Idaho and Southwestern Montana Sub-region Draft LUPA/EIS was submitted to the US Environmental Protection Agency for review as required by CEQ regulations. This portion of Chapter 5 will be updated in the final EIS to reflect coordination efforts and the US Environmental Protection Agency's rating of the draft EIS.

5.4 Consultation Letters

Letters for USFWS ESA Section 7 consultation have not yet been sent for this project.

5.5 List of Preparers

Table 5-3, List of Preparers, lists the name and project role of the individuals involved in the preparation of this document.

Table 5-3
List of Preparers

Name	Role/Responsibility
Bureau of Land Management	
Brent Ralston	Idaho State Office Project Lead, special designations lead
John Thompson	Montana State Office Project Lead
Joe Adamski	Forestry
Jon Beck	Mineral resources, special designations
Kelly Bocking	GRSG, vegetation, livestock grazing, recreation and visitor services, comprehensive trail and travel management, lands and realty, mineral resources
Bryce Bohn	Air quality, soil resources, water resources
Connie Breckenridge	GIS
Brandon Brown	Wildland fire management
Glen Burkhardt	Air quality, wildland fire management
Tim Carrigan	Lands and realty
Rod Collins	GIS
Natalie Cooper	Lands and realty
Lynn Danly	Vegetation
Robin Fehlau	Visual resources, lands with wilderness characteristics, recreation and visitor services, comprehensive trail and travel management, special designations
Vince Guyer	GRSG, wild horse and burro
Kirk Halford	Cultural resources, paleontological resources
Lara Hannon	Vegetation
Jon Haupt	Livestock grazing
Sara Heide	Wildland fire management

**Table 5-3
List of Preparers**

Name	Role/Responsibility
Terry Heslin	Comprehensive trail and travel management
Scott Hoefer	Special status species, fish resources
Gloria Jakovac	Lands and Realty
Steve Jirik	Vegetation, wildland fire management
Brandon Knapton	Special status species
Kevin Knauth	Wildland fire management
Michael Kuyper	Vegetation, livestock grazing, mineral resources
Stephen Leonard	Wild horse and burro
Nika Lepak	Wild horse and burro, livestock grazing
Don Major	Vegetation, wildlife resources
Paul Makela	GRSG, special status species, wildlife resources, lands and realty
Clint McCarthy	Vegetation
Diane McConnaughey	GIS
Kelly Moore	Lands and realty
Karen Porter	Mineral resources
Kasey Prestwich	Lands and realty
Jesse Rawson	GRSG
Tom Rinkes	GRSG, wildlife resources
Chris Robbins	Livestock grazing
Bruce Schoeberl	Fish resources
Elena Shaw	Vegetation, livestock grazing
Steve Shaw	Wildland fire management
Dick Todd	Lands and realty
Jason Wright	Vegetation, wildland fire management
Cheryle Zwang	Cultural resources
Forest Service Nest Members	
Rob Mickelsen	Idaho Project Lead, vegetation
Dustin Bambrough	Livestock grazing
Pam Bode	NEPA/planning
Chris Colt	Special status species, wildlife
Dale Harber	Minerals specialist
Kolleen Kralick	Cultural resources, Native American tribal interests
Tim Love	GIS
Tim Metzger	Wildland fire management
Cory Norman	Wildland fire management
David Reis	Comprehensive trails and travel management
Consultant - EMPSi	
Meredith Zaccherio	Project Manager, biological resources lead
Angie Adams	Special designations, wilderness characteristics
David Batts	Project Advisor
Constance Callahan	Quality Assurance, editing
Amy Cordle	Air quality
Annie Daly	Air quality, special designations, wilderness characteristics
Andrew Gentile	Soil resources, water resources



**Table 5-3
List of Preparers**

Name	Role/Responsibility
Zoe Ghali	Forestry, livestock grazing, wild horse and burro, wildland fire management
Peter Gower	Comprehensive trails and travel management, lands and realty, recreation and visitor services, visual resources
Brandon Jensen	Fish resources, wildlife resources
Matt Kluvo	Vegetation, forestry, paleontological resources
Kate Krebs	Visual resources
Laura Long	Technical editing
Carol-Anne Murray	Cultural resources, Native American tribal interests, paleontological resources
Katie Patterson	Minerals (coal, fluid minerals, locatable minerals, mineral materials, nonenergy leasable minerals)
Holly Prohaska	Livestock grazing, wild horse and burro
Marcia Rickey	GIS
Chad Ricklefs	Lands and realty
Cindy Schad	Word processing
Jordan Tucker	Soil resources, water resources
Drew Vankat	Wildland fire management, recreation and visitor services, comprehensive trails and travel management
Jennifer Whitaker	Minerals (coal, fluid minerals, locatable minerals, mineral materials, nonenergy leasable minerals)
Liza Wozniak	GRSG, special status species
Consultant – ICF International	
Robert Fetter	Project Manager-Socioeconomics and Environmental Justice
Alex Uriarte	Socioeconomics and Environmental Justice Specialist
Elizabeth Kurz	Project Assistance
Alison Carey	Project Assistance

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Chapter 6

References



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Chapter 7

Acronyms and Glossary



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Chapter 7. Acronyms and Glossary

7.1 Acronyms

<u>Acronym</u>	<u>Full Phrase</u>
ACEC	area of critical environmental concern
AML	appropriate management level
AMP	allotment management plan
APD	application for permit to drill
APHIS	Animal and Plant Health Inspection Service
AQRV	air quality related values
ATV	all-terrain vehicle
AUM	animal unit-month
BAER	burn area emergency response
BDNF	Beaverhead-Deerlodge National Forest
BEA	Bureau of Economic Analysis
BER	baseline environmental report
BLM	United States Department of the Interior, Bureau of Land Management
BLS	Bureau of Labor Statistics
BMP	best management practices
CA	conservation area
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CHZ	core habitat zone
CO	carbon monoxide
CO ₂	carbon dioxide
COA	condition of approval
COT	Conservation Objectives Team
CSU	controlled surface use
DFO	Dillon Field Office
DOI	United States Department of the Interior
EIS	environmental impact statement
EPA	United States Environmental Protection Agency
ESA	US Endangered Species Act of 1973
ESD	Ecological Side Description
ERMA	extensive recreation management area
ERS	USDA Economic Research Service
ESR	emergency stabilization and rehabilitation
°F	Fahrenheit degrees
FERC	Federal Energy Regulatory Commission

Acronym

Full Phrase

FLPMA	Federal Land Policy and Management Act of 1976
Forest Service	United States Department of Agriculture, Forest Service
FR	<i>Federal Register</i>
FRCC	fire regime condition class
FSH	Forest Service Handbook
FSM	Forest Service Manual
FY	fiscal year
GHZ	general habitat zone
GIS	geographic information system
GOA	goals, objectives, allocations and management actions
GPS	global positioning system
GRSG	greater sage-grouse
HA	herd area
HAF	Habitat Assessment Framework
HFC	hydrofluorocarbon
HFR	hazardous fuels reduction program
HMA	herd management area
HMP	habitat management plan
IB	BLM Information Bulletin
IDFG	Idaho Department of Fish and Game
IHZ	important habitat zone
IM	BLM Instruction Memorandum
IPCC	Intergovernmental Panel on Climate Change
KPLA	known phosphate leasing area
LRMP	land and resource management plan
LUP	land use plan
LUPA	land use plan amendment
LWG	local working group
MBF	thousand board feet
MFP	management framework plan
MFWP	Montana Fish, Wildlife, and Parks
MOU	memorandum of understanding
MZ	management zone
N ₂ O	nitrous oxide
N/A	not applicable
NAAQS	National Ambient Air Quality Standards



<u>Acronym</u>	<u>Full Phrase</u>
NCA	National Conservation Area
NEPA	National Environmental Policy Act of 1969
NF	not functioning
NFMA	National Forest Management Act of 1976
NHPA	National Historic Preservation Act
NHT	National Historic Trail
NLCS	National Landscape Conservation System
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
NOI	notice of intent
NPS	National Park Service
NRCS	United States Department of Agriculture Natural Resources Conservation Service
NREL	National Renewable Energy Laboratory
NRHP	National Register of Historic Places
NSO	no surface occupancy
NTT	Greater Sage-Grouse National Technical Team
OHV	off-highway vehicle
ONRR	Department of Interior, Office of Natural Resources Revenue
OSC	Idaho Office of Species Conservation
PAC	priority areas for conservation
PDF	preferred design feature
PECE	policy for evaluation of conservation efforts when making listing decisions
PFC	proper functioning condition
PGH	preliminary general habitat
PGMA	preliminary general management area
PILT	Payment in Lieu of Taxes
PM _{2.5}	particulate matter with a diameter less than or equal to 2.5 microns
PM ₁₀	particulate matter with a diameter less than or equal to 10 microns
PMMA	preliminary medial management area
PPH	preliminary primary habitat
PPMA	preliminary priority management area
PRMA	preliminary restoration management area
RDF	required design feature
RFDS	reasonable foreseeable development scenario
RFPA	Rangeland Fire Protection Association
RMP	resource management plan
ROD	record of decision
ROW	right-of-way
S&Gs	standards and guidelines

<u>Acronym</u>	<u>Full Phrase</u>
SDF	suggested design feature
SGMA	Sage-Grouse Management Area
SHPO	state historic preservation officer
SO ₂	sulfur dioxide
SRMA	special recreation management area
SRP	special recreation permit
SUA	special use authorization
TAT	technical assistance team
TCP	traditional cultural property
TL	timing limitation
TTM	travel and transportation management
UDWR	Utah Department of Wildlife Resources
US	United States
USC	United States Code
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Department of the Interior, Fish and Wildlife Service
USGS	United States Geological Survey
VDDT	Vegetation Dynamics Development Tool
VOC	volatile organic compound
VRM	visual resource management
WAFWA	Western Association of Fish and Wildlife Agencies
WGFD	Wyoming Game and Fish Department
WSA	Wilderness Study Area
WUI	wildland-urban interface
ZA	zoological area

7.2 Glossary

2008 WAFWA Sage-Grouse MOU: A memorandum of understanding among Western Association of Fish and Wildlife Agencies, US Department of Agriculture, Forest Service, US Department of the Interior, Bureau of Land Management, US Department of the Interior, Fish and Wildlife Service, US Department of the Interior, Geological Survey, US Department of Agriculture, Natural Resources Conservation Service, and the US Department of Agriculture, Farm Service Agency. The purpose of the MOU is to provide for cooperation among the participating state and federal land, wildlife management and science agencies in the conservation and management of sage-grouse (*Centrocercus urophasianus*) sagebrush (*Artemisia* spp.) habitats and other sagebrush-dependent wildlife throughout the western United States and Canada and a commitment of all agencies to implement the 2006 WAFWA Conservation Strategy.

2011 Partnership MOU: An agreement among the United States Department of Agriculture Natural Resource Conservation Service, Forest Service, United State Department of the Interior, Bureau of Land Management, and Fish and Wildlife Service. This MOU is for range management, to implement NRCS practices on adjacent federal properties.

Acquired lands: Federal lands obtained by purchase, condemnation, exchange, or gift under laws other than public land laws. Legally defined as "... land obtained by the United States through purchase or transfer from a State or private individual and normally dedicated to a specific use." *McKenna v. Wallis*, 200 F. Supp. 468 (1961). See also *Bobby Lee Moore, et al.*, 72 I.D. 505 (1965).

Actual use: The amount of animal unit months consumed by livestock based on the numbers of livestock and grazing dates submitted by the livestock operator and confirmed by periodic field checks by the BLM.

Administrative access: A term used to describe access for resource management and administration, such as fire suppression, cadastral surveys, permit compliance, law enforcement, and military in the performance of their official duty, or other access needed to administer BLM-managed lands or uses.

Allotment management plan: A concisely written program of livestock grazing management, including supportive measures if required, designed to attain specific, multiple-use management goals in a grazing allotment. An AMP is prepared in consultation with the permittees, lessees, and other affected interests. Livestock grazing is considered in relation to other uses of the range and to renewable resources, such as watershed, vegetation, and wildlife. An AMP establishes seasons of use, the number of livestock to be permitted, the range improvements needed, and the grazing system.

Allotment: An area of land in which one or more livestock operators graze their livestock. Allotments generally consist of BLM-administered lands but may include Forest Service-administered lands or other federally managed, state-owned, or private lands. An allotment may include or more separate pastures. Livestock numbers and periods of use are specified for each allotment.

Animal unit month: The amount of forage necessary for the sustenance of one cow or its equivalent for a period of one month (approximately 800 pounds of air-dried material per AUM).

Anthropogenic disturbances: Features include paved highways, graded gravel roads, transmission lines, substations, wind turbines, oil and gas wells, geothermal wells and associated facilities, pipelines, landfills, agricultural conversion, homes, and mines.

Area of critical environmental concern: Special area designation established through the BLM's land use planning process (43 CFR 1610.7-2), where special management attention is needed to protect and prevent irreparable damage to important historical, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes or to protect life

and safety from natural hazards. The level of allowable use within an ACEC is established through the collaborative planning process. Designation of an ACEC allows for resource use limitations in order to protect identified resources or values.

Associated settings: The geographic extent of the resources, qualities, and values or landscape elements within the surrounding environment that influence the trail experience and contribute to resource protection. Settings associated with a National Scenic or Historic Trail include scenic, historic, cultural, recreation, natural (including biological, geological, and scientific), and other landscape elements (see resources, qualities, and values).

Authorized/authorized use: This is an activity (i.e., resource use) occurring on the public lands that is either explicitly or implicitly recognized and legalized by law or regulation. This term may refer to those activities occurring on the public lands for which the BLM, Forest Service, or other appropriate authority (e.g., Congress for RS 2477 rights-of-way, FERC for major interstate rights-of-way) has issued a formal authorization document (e.g., livestock grazing lease/permit, right-of-way grant, coal lease, or oil and gas permit to drill). Formally authorized uses typically involve some type of commercial activity, facility placement, or event. These formally authorized uses are often spatially or temporally limited. Unless constrained or bounded by statute, regulation, or an approved land use plan decision, legal activities involving public enjoyment and use of the public lands (e.g., hiking, camping, and hunting) require no formal BLM or Forest Service authorization.

Avoidance/avoidance area: These terms usually address mitigation of some activity (i.e., resource use). Paraphrasing the CEQ Regulations (40 CFR 1508.20), avoidance means to circumvent or bypass an impact altogether by not taking a certain action, or parts of an action. Therefore, the term avoidance does not necessarily prohibit a proposed activity, but it may require the relocation of an action or the total redesign of an action to eliminate any potential impacts resulting from it.

Best management practices: A suite of techniques that guide or may be applied to management actions to aid in achieving desired outcomes. BMPs are often developed in conjunction with land use plans, but they are not considered a planning decision unless the plans specify that they are mandatory.

Candidate species: Species for which the US Fish and Wildlife Service has sufficient information on their status and threats to support proposing them for listing as endangered or threatened under the Endangered Species Act but for which issuance of a proposed rule is currently precluded by higher priority listing actions. Separate lists for plants, vertebrate animals, and invertebrate animals are published periodically in the *Federal Register* (from M6840, Special Status Species Manual).

Casual use: Activities ordinarily resulting in no or negligible disturbance of the public lands, resources, or improvements. For examples of rights-of-way, see 43 CFR 2801.5; for examples of locatable minerals, see 43 CFR 3809.5.

Condition of approval: Requirement under which an application for a permit to drill or sundry notice is approved.

Checkerboard: This term refers to a landownership pattern of alternating sections of federal owned lands with private or state-owned lands for 20 miles on either side of a land grant railroad (e.g., Union Pacific and Northern Pacific). On land status maps this alternating ownership is either delineated by color coding or alphabetic code resulting in a checkerboard pattern.

Cherry-stemmed/cherry-stemming: This term refers to a narrow, linear, intrusion, or extrusion of a delineated block of federal lands resulting in what appears on a map as a boundary inlet or peninsula. Although this term may be used in any resource program, the most common use is in relation to dead-end road intrusions along WSA boundaries.

Condition of approval: A site-specific and enforceable requirement included in an approved application for permit to drill or sundry notice that may limit or amend the specific actions proposed by the operator. Conditions of approval minimize, mitigate, or prevent impacts on resource values or other uses of public lands.

Conservation Plan: The recorded decisions of a landowner or operator, cooperating with a conservation district, on how the landowner or operator plans, within practical limits, to use his or her land according to its capability and to treat it according to its needs for maintenance or improvement of the soil, water, animal, plant, and air resources.

Conservation measures: Undertakings to conserve, enhance, or restore Greater Sage-Grouse habitat by reducing, eliminating, or minimizing threats to that habitat.

Controlled surface use: CSU is a category of moderate constraint stipulations that allows some use and occupancy of public land, while protecting identified resources or values. A CSU stipulation allows the BLM or Forest Service to require special operational constraints, or the surface-disturbing activity can be shifted to protect the specified resource or value.

Cooperating agency: Assists the lead federal agency in developing an environmental assessment or environmental impact statement. This can be any agency with jurisdiction by law or special expertise for proposals covered by NEPA (40 CFR 1501.6). Any tribe or federal, state, or local government jurisdiction with such qualifications may become a cooperating agency by agreement with the lead agency.

Core Sage-Grouse habitat: Strongholds for Sage-Grouse populations in Idaho. Highest priority for conservation efforts and policies to address primary threats. Includes approximately 65 percent of known active leks and occupied by approximately 73 percent of male Sage-Grouse counted a leks throughout the Idaho Sage-Grouse management area.

Council on Environmental Quality: An advisory council to the President of the United States established by the National Environmental Policy Act of 1969. It reviews federal programs to analyze and interpret environmental trends and information.

Cultural resources: Locations of human activity, occupation, or use. Cultural resources include archaeological, historic, or architectural sites, structures, or places with important public and scientific uses and locations of traditional cultural or religious importance to specified social or cultural groups.

Cumulative effects: The direct and indirect effects of a proposed project alternative's incremental impacts when they are added to other past, present, and reasonably foreseeable actions, regardless of who carries out the action.

Decision area: Lands and federal mineral estate within the planning area that are administered by the BLM and Forest Service.

Deferred/deferred use: To set-aside, or postpone, a particular resource use or activity on the public lands to a later time. Generally when this term is used, the period of the deferral is specified. Deferments sometimes follow the sequence timeframe of associated serial actions (e.g., action B will be deferred until action A is completed).

Designated roads and trails: Specific roads and trails identified by the BLM (or other agencies) where some type of motorized vehicle use is appropriate and allowed, either seasonally or year-long (H-1601-1, BLM Land Use Planning Handbook).

Disruptive activities: Those public land resource uses and activities that are likely to alter the behavior of, displace, or cause excessive stress to existing animal or human populations at a specific location or time. In this context, disruptive activity refers to those actions that alter behavior or cause the displacement of individuals such that reproductive success is negatively affected, or an individual's physiological ability to cope with environmental stress is compromised. This term does not apply to the physical disturbance of the land surface, vegetation, or features. When administered as a land use restriction (e.g., No Disruptive Activities), this term may prohibit or limit the physical presence of sound above ambient levels, light beyond background levels, or the nearness of people and their activities. The term is commonly used in conjunction with protecting wildlife during crucial life stages (e.g., breeding, nesting, and birthing), although it could apply to any resource value on the public lands. The use of this land use restriction is not intended to prohibit all activity or authorized uses.

Ecological site: A distinctive kind of land with specific physical characteristics that differs from other kinds of land in its ability to produce a distinctive kind and amount of vegetation.

Emergency Use: These are activities occurring on the public lands outside the scope of normal resource use and operations and that require immediate attention. Emergency use activities are typically driven by imminent concerns for human health and safety or protection of property (e.g., wildfire suppression, HAZMAT response, and disease outbreaks). Emergency use is typically exempted from other land use restrictions, with the exercise of reasonable and prudent care.

Endangered species: Any species that is in danger of extinction throughout all or a significant portion of its range and is so designated by the Secretary of Interior, in accordance with the 1973 Endangered Species Act.

Environmental impact statement: A detailed written statement required by the National Environmental Policy Act when an agency proposes a major federal action significantly affecting the quality of the human environment.

Exclusion area: An area on the public lands where a certain activity is prohibited to ensure protection of other resources on the site. The term is frequently used in reference to lands and realty actions and proposals (e.g., rights-of-way), but it is not unique to lands and realty activities. This restriction is functionally analogous to the phrase “no surface occupancy” used by the oil and gas program and is applied as an absolute condition to those affected activities. The less restrictive analogous term is avoidance area.

Exploration: Active drilling and geophysical operations to determine the presence of the mineral resource or to determine the extent of the reservoir or mineral deposit.

Federal Land Policy and Management Act of 1976 (FLPMA): Public Law 94-579, which gives the BLM legal authority to establish public land policy, to establish guidelines for administering such policy, and to provide for management, protection, development, and enhancement of the public land.

Federal mineral estate: Subsurface mineral estate owned by the United States and administered by the BLM. Federal mineral estate under BLM jurisdiction is composed of mineral estate underlying BLM-administered lands, privately owned lands, and state-owned lands

Fire suppression: All activities connected with fire extinguishing operations, beginning with discovery of a fire and continuing until the fire is completely out.

Fluid minerals: Oil, gas, coal bed natural gas, and geothermal resources.

Forage: All browse and herbaceous foods that are available to grazing animals.

Free flowing: Existing or flowing in natural condition without impoundment, diversion, straightening, riprapping, or other modification of the waterway (Section 16[b] of the Wild and Scenic Rivers Act). Designation of a wild and scenic river does not depend on the river being “naturally flowing,” (i.e., flowing without any man-made upstream or downstream manipulation). The presence of impoundments above or below the segment (including those that may regulate flow regimes within the segment) and existing minor dams or diversion structures within the study area do not necessarily render a river segment noneligible. There are segments in the national system that are downstream from major dams or located between dams.

Enhance: The improvement of habitat by increasing missing or modifying unsatisfactory components or attributes of the plant community to meet Sage-Grouse objectives.

General Sage-Grouse habitat: Occupied (seasonal or year-round) habitat outside of priority habitat. It includes a few active leks and fragmented or marginal habitat, such as two isolated populations of Sage-Grouse in the East Idaho Uplands and West Central Idaho. These areas have been identified by the BLM in coordination with respective state wildlife agencies.

Grazing system: Scheduled grazing use and nonuse of an allotment to reach identified goals or objectives by improving the quality and quantity of vegetation. This includes developing pastures, utilization levels, grazing rotations, timing and duration of use periods, and necessary range improvements.

Habitat: An environment that meets a specific set of physical, biological, temporal, or spatial characteristics that satisfy the requirements of a plant or animal species or group of species for part or all of their life cycle.

Important Sage-Grouse habitat: Defined as the 75 percent breeding bird density areas. Includes areas of value for migration corridors, connectivity among breeding areas, and long term persistence of each of the two key metapopulations of Sage-Grouse in Idaho. Includes approximately 25 percent of the known active leks and occupied by an estimated 22 percent of Sage-Grouse males. Captures high quality habitat and populations necessary for providing a management buffer for the core habitat.

Incompatible use: An activity that affects (hinders or obstructs) the nature and purposes of a designated National Trail (see substantial interference).

Integrated ranch planning: A method for ranch planning that takes a holistic look at all elements of the ranching operations, including strategic and tactical planning, rather than approaching planning as several separate enterprises.

Land-locked: This term refers to the situation when any parcel of private, state, or federal land has no legal access without crossing another ownership due to the existing land ownership pattern.

Land tenure adjustment: This term refers to a change in landownership patterns, or legal status, to improve their administrative manageability and their usefulness to the public.

Late brood rearing area: Habitat includes mesic sagebrush and mixed shrub communities, wet meadows, and riparian habitats, as well as some agricultural lands (e.g., alfalfa fields).

Lek: A traditional courtship display area attended by male Sage-Grouse in or next to sagebrush-dominated habitat. A lek is designated based on observations of two or more male Sage-Grouse engaged in courtship displays. Subdominant males may display on itinerant strutting areas during population peaks. Such areas usually fail to become established leks. Therefore, a site where less than five males are observed strutting should be confirmed active for two years before meeting the definition of a lek (Connelly et al. 2000; Connelly et al. 2003, 2004). Each state may have a slightly different definition of lek, active



lek, inactive lek, occupied lek, and unoccupied leks. Regional planning will use the appropriate definition provided by the state of interest.

Lek complex: A lek or group of leks within 2.5 kilometers (1.5 miles) of each other between which male Sage-Grouse may interchange from one day to the next. Fidelity to leks has been well documented. Visits to multiple leks are most common among yearlings and less frequent for adult males, suggesting an age-related period of establishment (Connelly et al. 2004).

Lek, active: Any lek that has been attended by male Sage-Grouse during the strutting season.

Lek, inactive: Any lek where sufficient data suggests that there was no strutting activity throughout a strutting season. Absence of strutting grouse during a single visit is insufficient documentation to establish that a lek is inactive. This designation requires documentation of one of the following scenarios:

- An absence of Sage-Grouse on the lek during at least two ground surveys separated by at least seven days. These surveys must be conducted under ideal conditions (April 1-May 7 or other appropriate date based on local conditions), no precipitation, light or no wind, half-hour before sunrise to one hour after sunrise).
- A ground check of the exact known lek site late in the strutting season (after April 15) that fails to find any sign (tracks, droppings, feathers) of strutting activity. Data collected by aerial surveys should not be used to designate inactive status as the aerial survey may actually disrupt activities.

Lek, occupied: A lek that has been active during at least one strutting season within the prior 10 years.

Lek, unoccupied: A lek that has either been destroyed or abandoned.

Lek, destroyed: A formerly active lek site and surrounding sagebrush habitat that has been destroyed and is no longer suitable for Sage-Grouse breeding.

Lek, abandoned: A lek in otherwise suitable habitat that has not been active for 10 consecutive years. To be designated abandoned, a lek must be inactive (see above criteria) in at least four nonconsecutive strutting seasons spanning the 10 years. The site of an abandoned lek should be surveyed at least once every 10 years to determine whether it has been reoccupied by Sage-Grouse.

Locatable minerals: Minerals subject to exploration, development, and disposal by staking mining claims, as authorized by the Mining Law of 1872, as amended. This includes deposits of gold, silver, and other uncommon minerals not subject to lease or sale.

Master development plans: A set of information common to multiple planned wells, including drilling plans, surface use plans of operations, and plans for future production.

Mineral: Any naturally formed inorganic material, solid or fluid inorganic substance that can be extracted from the earth, any of various naturally occurring homogeneous substances (as stone, coal, salt, sulfur, sand, petroleum, water, or natural gas) obtained for human use, usually from the ground. Under federal laws, considered as locatable (subject to the general mining laws), leasable (subject to the Mineral Leasing Act of 1920), and salable (subject to the Materials Act of 1947).

Mineral materials (salable minerals): Common varieties of sand, stone, pumice, gravel, and clay that are not obtainable under the mining or leasing laws but that can be acquired under the Materials Act of 1947, as amended. In accordance with regulations in 43 CFR Part 3600, the BLM sells mineral materials to the public at fair market value but gives them free to states, counties, or other government entities for public projects. Disposal of mineral materials is subject to conformance with all applicable laws and BLM policy in BLM Handbook H-3600-1.

Mining claim: A parcel of land that a miner takes and holds for mining purposes, having acquired the right of possession by complying with the Mining Law and local laws and rules. A mining claim may contain as many adjoining locations as the locator may make or buy. There are four categories of mining claims: lode, placer, mill site, and tunnel site.

Mitigation: Includes specific means, measures, or practices that could reduce, avoid, or eliminate adverse impacts. Mitigation can include avoiding the impact altogether by not taking a certain action or parts of an action, minimizing the impact by limiting the degree of magnitude of the action and its implementation, rectifying the impact by repairing, rehabilitating, or restoring the affected environment, reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action, and compensating for the impact by replacing or providing substitute resources or environments.

Monitoring (plan monitoring): The process of tracking the implementation of land use plan decisions and collecting and assessing data necessary to evaluate the effectiveness of land use planning decisions.

National Conservation Area: Area designated by Congress, generally to conserve, protect, enhance, and properly manage the resources and values for which it was designated for the benefit and enjoyment of present and future generations.

National Historic Trail: A congressionally designated trail that is an extended, long-distance trail, not necessarily managed as continuous, that follows as closely as possible and practicable the original trails or routes of travel of national historic significance. The purpose of a National Historic Trail is the identification and protection of the historic route and the historic remnants and artifacts for public use and enjoyment. A National Historic Trail is managed in a manner to protect the nationally significant resources, qualities, values, and



associated settings of the areas through which such trails may pass, including the primary use or uses of the trail (BLM Manual 6250, NHT Administration).

National Monument: Area designated by the president of the United States by proclamation, in accordance with the Antiquities Act of 1906, for the protection of objects of historical or scientific interest, or by Congress for the conservation, protection, restoration, or enhancement of the resources, objects, and values for which it was designated.

Nature and purposes: The term used to describe the character, characteristics, and congressional intent for a designated National Trail, including the resources, qualities, values, and associated settings of the areas through which such trails may pass; the primary use or uses of a National Trail; and activities promoting the preservation of, public access to, travel within, and enjoyment and appreciation of National Trails.

No surface occupancy: A major constraint where use or occupancy of the land surface for fluid mineral exploration or development and surface-disturbing activities is prohibited to protect identified resource values. Areas identified as NSO are open to fluid mineral leasing, but surface-disturbing activities cannot be conducted on the surface of the land. Access to fluid mineral deposits would require directional drilling from outside the boundaries of the NSO. NSO areas are treated as avoidance areas for rights-of-way; no rights-of-way would be granted in NSO areas unless there were no feasible alternatives.

Notice-level mining activities: To qualify for a notice the mining activity must 1) constitute exploration, 2) not involve bulk sampling of more than 1,000 tons of presumed ore, 3) must not exceed five acres of surface disturbance, and 4) must not occur in one of the special category lands listed in 43 CFR 3809.11(c). The notice is to be filed in the BLM field office with jurisdiction over the land involved. The notice does not need to be on a particular form but must contain the information required by 43 CFR 3809.301(b).

Off-highway vehicle: Any motorized vehicle capable of, or designed for, travel on or immediately over land, water, or other natural terrain, excluding (1) any nonamphibious registered motorboat, (2) any military, fire, emergency, or law enforcement vehicle while being used for emergency purposes, (3) any vehicle whose use is expressly authorized by the authorized officer or otherwise officially approved, (4) vehicles in official use, and (5) any combat or combat support vehicle when used for national defense (H-1601-1, BLM Land Use Planning Handbook).

Off-site mitigation: Compensating for resource impacts by replacing or providing substitute resources or habitat at a different location than the project area.

Outstandingly remarkable values: Values among those listed in Section 1(b) of the Wild and Scenic Rivers Act: “scenic, recreational, geological, fish and wildlife, historical, cultural, or other similar values.” Other values that may be considered include ecological, biological or botanical, paleontological, hydrological, traditional cultural uses, water quality, and scientific values. The Wild and Scenic Rivers Act does not further define outstandingly

remarkable values. Agency resource professionals develop and interpret criteria in evaluating river values (unique, rare, or exemplary) based on professional judgment on a regional, physiographic, or geographic comparative basis.

Patent: A grant made to an individual or group conveying fee simple title to selected public lands.

Permittee: A person or company permitted to graze livestock on public land.

Plan of operations: A document required for all mining activity exploration greater than five acres or surface disturbance greater than casual use on certain special category lands. Special category lands are described under 43 CFR 3809.11(c) and include such lands as designated areas of critical environmental concern, lands within the National Wilderness Preservation System, and areas closed to off-road vehicles, among others. In addition, a plan of operations is required for activity greater than casual use on lands patented under the Stock Raising Homestead Act with federal minerals where the operator does not have the written consent of the surface owner (43 CFR 3814). The plan of operations needs to be filed in the BLM field office with jurisdiction over the land involved. The plan does not need to be on a particular form but must address the information required by 43 CFR 3809.401(b).

Policy: This is a statement of guiding principles, or procedures, designed and intended to influence planning decisions, operating actions, or other affairs of the BLM or Forest Service. Policies are established interpretations of legislation, executive orders, regulations, or other presidential, secretarial, or management directives.

Primary use or uses: Authorized mode or modes of travel, or activities identified in the National Trails System Act, enabling legislation, or legislative history, through the trailwide comprehensive plan or approved resource management plan.

Priority Sage-Grouse habitat: Areas that have been identified as having the highest conservation value to maintaining sustainable Sage-Grouse populations. These areas would include breeding, late brood-rearing, and winter concentration areas. The BLM has identified these areas in coordination with respective state wildlife agencies.

Public domain: The term applied to any or all of those areas of land ceded to the federal government by the original states and to such other lands as were later acquired by treaty, purchase, or cession and are disposed of only under the authority of Congress.

Range improvement: Any activity, structure, or program on or relating to rangelands that is designed to improve production of forage, change vegetative composition, control patterns of use, provide water, stabilize soil and water conditions, and provide habitat for livestock and wildlife. The term includes structures, treatment projects, and use of mechanical means to accomplish the desired results.



Reclamation: The suite of actions taken within an area affected by human disturbance, the outcome of which is intended to change the condition of the disturbed area to meet predetermined objectives or make it acceptable for certain defined resources (e.g., wildlife habitat, grazing, and ecosystem function).

Reference state: The state where the functional capacities represented by soil/site stability, hydrologic function, and biotic integrity are performing at an optimum level under the natural disturbance regime. This state usually includes what is often referred to as the potential natural plant community.

Required design features: Means, measures, or practices intended to reduce or avoid adverse environmental impacts. A suite of features that would establish the minimum specifications for certain activities (i.e., water developments, mineral development, and fire and fuels management) and mitigate adverse impacts. These design features would be required to provide a greater level of regulatory certainty than through implementation of best management practices. In general, the design features are accepted practices that are known to be effective when implemented properly at the project level. However, their applicability and overall effectiveness cannot be fully assessed except at the project-specific level when the project location and design are known. Because of site-specific circumstances, some features may not apply to some projects (e.g., a resource is not present on a given site) or may require slight variations from what is described in the EIS/LUPA (e.g., a larger or smaller protective area). All variations in design features would require appropriate analysis and disclosure as part of future project authorizations. Additional mitigation measures may be identified and required during individual project development and environmental review.

Resource management plan: A land use plan as prescribed by the Federal Land Policy and Management Act that establishes, for a given area of land, land-use allocations, coordination guidelines for multiple-use, objectives, and actions to be achieved.

Resources, qualities, and values: The significant scenic, historic, cultural, recreation, natural (including biological, geological, and scientific), and other landscape areas through which trails may pass, as identified in the National Trails System Act (see associated settings).

Restoration: Implementation of a set of actions that promotes plant community diversity and structure that allows plant communities to be more resilient to disturbance and invasive species over the long term. The long-term goal is to create functional high quality habitat that is occupied by Sage-Grouse. The short-term goals may be to restore the landform, soils, and hydrology and to increase the percentage of preferred vegetation, seeding of desired species, or treatment of undesired species.

Restriction/restricted use: A limitation or constraint on public land uses and operations. Restrictions can be of any kind, but most commonly apply to certain types of vehicle use, temporal or spatial constraints, or certain authorizations.

Right-of-way: An easement or permit that authorizes public land to be used for a specified purpose that is in the public interest and that require rights-of-way over, upon, under, or through such lands. Examples are roads, power lines, and pipelines.

Roadless area: Designated Forest Service-administered lands with wilderness attributes. The Forest Service restricts activities, such as road construction and reconstruction, timber cutting, and mineral activities to various degrees in order to protect roadless areas.

Season of use: The time during which livestock grazing is permitted on a given range area, as specified in the grazing lease.

Special recreation management area: Administrative units where the existing or proposed recreation opportunities and recreation setting characteristics are recognized for their unique value, importance, or distinctiveness, especially compared to other areas used for recreation.

Special recreation permits: Authorizations that allow for recreation on public lands and related waters. Issued as a means to control visitor use, protect recreational and natural resources, and provide for the health and safety of visitors. Commercial special recreation permits also are issued as a mechanism to provide a fair return for the commercial use of public lands.

Special status species: Includes proposed species, listed species, and candidate species under the ESA; also, state-listed species and BLM State Director-designated sensitive species (BLM Manual 6840, Special Status Species Management).

Split estate: Circumstance where the surface of a particular parcel of land is owned by a different party than the minerals underlying the surface. Split estates may have any combination of surface/subsurface owners: federal/state, federal/private, state/private, or percentage ownerships. When referring to the split estate ownership on a particular parcel of land, it is generally necessary to describe the surface/subsurface ownership pattern of the parcel.

State: A state is composed of an integrated soil and vegetation unit having one or more biological communities that occur on a particular ecological site and that are functionally similar with respect to the three attributes (soil/site stability, hydrologic function, and biotic integrity) under natural disturbance regimes.

Stipulation: A condition of lease issuance that provides a level of protection for other resource values or land uses by restricting lease operations during certain times or locations or to avoid unacceptable impacts, to an extent greater than standard lease terms or regulations. A stipulation is an enforceable term of the lease contract, supersedes any inconsistent provisions of the standard lease form, and is attached to and made a part of the lease. Lease stipulations further implement the BLM's regulatory authority to protect resources or resource values. Lease stipulations are developed through the land use planning process.



Stochastic: Randomly determined event, chance event, a condition determined by predictable processes and a random element.

Substantial interference: Determination that an activity or use hinders or obstructs the nature and purposes of a designated National Trail (see nature and purposes).

Surface disturbance: Suitable habitat is considered disturbed when it is removed and unavailable for immediate Sage-Grouse use.

- Long-term removal occurs when habitat is physically removed through activities that replace suitable habitat with long-term occupancy of unsuitable habitat, such as a road, power line, well pad, or active mine. Long-term removal may also result from any activities that cause soil mixing, soil removal, and exposure of the soil to erosive processes
- Short-term removal occurs when vegetation is removed in small areas but restored to suitable habitat within less than five years of disturbance, such as a successfully reclaimed pipeline or successfully reclaimed drill hole or pit
- Suitable habitat rendered unusable due to numerous anthropogenic disturbances
- Anthropogenic surface disturbance are surface disturbances meeting the above definitions and that result from human activities

Surface-disturbing activities: An action that alters the vegetation, surface/near surface soil resources, or surface geologic features, beyond natural site conditions and on a scale that affects other public land values. Examples of surface-disturbing activities are operation of heavy equipment to construct well pads, roads, pits and reservoirs; installation of pipelines and power lines; and the conduct of several types of vegetation treatments (e.g., prescribed fire). Surface-disturbing activities may be either authorized or prohibited.

Surface uses: These are all the various activities that may be present on the surface or near-surface (e.g., pipelines), of the public lands. It does not refer to those subterranean activities (e.g., underground mining) occurring on the public lands or federal mineral estate. When administered as a use restriction (e.g., no surface use), this phrase prohibits all but specified resource uses and activities in a certain area to protect particular sensitive resource values and property. This designation typically applies to small acreage sensitive resource sites (e.g., plant community study enclosure), or administrative sites (e.g., government ware-yard) where only authorized agency personnel are admitted.

Temporary/temporary use: The opposite of the term permanent/permanent use. It is a relative term and has to be considered in the context of the resource values affected and the nature of the resource use or activity taking place. Generally, a temporary activity is considered to be one that is not fixed in place and is of short duration.

Timing limitation: Areas identified for timing limitations, a moderate constraint, are closed to fluid mineral exploration and development, surface-disturbing activities, and intensive

human activity during identified time frames. This stipulation does not apply to operation and basic maintenance activities, including associated vehicle travel, unless otherwise specified. Construction, drilling, completions, and other operations considered to be intensive are not allowed. Intensive maintenance, such as workovers on wells, is not permitted. Administrative activities are allowed at the discretion of the authorized officer.

Transition: A shift between two states. Transitions are not reversible by simply altering the intensity or direction of factors that produced the change. Instead, they require new inputs, such as revegetation or shrub removal. Practices such as these that accelerate succession are often expensive to apply.

Travel management areas: Polygons or delineated areas where a rational approach has been taken to classify areas as open, closed, or limited and have identified or designated a network of roads, trails, ways, and other routes that provide for public access and travel across the planning area. All designated travel routes within travel management areas should have a clearly identified need and purpose, as well as clearly defined activity types, modes of travel, and seasons or timeframes for allowable access or other limitations (BLM Manual H1601-1 Land Use Planning Handbook).

Unitization: The process by which lessees may unite with each other in collectively adopting and operating under a unit plan for the development of any oil, gas, or geothermal field.

Wild and scenic study river: Rivers identified for study by Congress under Section 5(a) of the Wild and Scenic Rivers Act or identified for study by the Secretary of Agriculture or the Secretary of the Interior under Section 5(d)(1) of the Wild and Scenic Rivers Act. These rivers will be studied under the provisions of Section 4 of the Wild and Scenic Rivers Act.

Wildcat well: An exploratory oil well drilled in land not known to be an oil field.

Wilderness characteristics: These attributes include the area's size, its apparent naturalness, and outstanding opportunities for solitude or a primitive and unconfined type of recreation. They may also include supplemental values. Lands with wilderness characteristics are those that have been inventoried and determined by the BLM to contain wilderness characteristics, as defined in Section 2(c) of the Wilderness Act.

Wilderness Study Area: Areas with wilderness characteristics identified and designated through the inventory and study processes authorized by Section 603 of FLPMA and, prior to 2003, through the planning process authorized by Section 202 of FLPMA.

Wilderness: A congressionally designated area of undeveloped federal land retaining its primeval character and influence, without permanent improvements or human habitation, that is protected and managed to preserve its natural conditions and that (1) generally appears to have been affected mainly by the forces of nature, with human imprints substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least 5,000 acres or is large enough to make practical



its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historic value. The definition is contained in Section 2(c) of the Wilderness Act of 1964 (78 Stat. 891, from H-6310-1, Wilderness Inventory and Study Procedures).

Wildland Fire: Any nonstructure fire that occurs in the vegetation or natural fuels. Includes both prescribed fire and wildfire (NWCG Memo #024-2010 April 30, 2010. www.nwcg.gov).

Wildland-urban interface: The line, area or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels.

Winter concentration areas: Sage-Grouse winter habitats that are occupied annually by Sage-Grouse and provide sufficient sagebrush cover and food to support birds throughout the entire winter (especially periods with above average snow cover). Many of these areas support several different breeding populations of Sage-Grouse. Sage-Grouse typically show high fidelity for these areas, and loss or fragmentation can result in significant population impacts.

Withdrawal: A withholding of an area of federal land from settlement, sale, location, or entry under some or all of the general land laws to achieve the following:

- Limit activity under those laws in order to maintain other public values in the area
- Reserve the area for a particular public purpose or program
- Transfer jurisdiction of the area from one federal agency to another

Zoological area: Roughly analogous to BLM area of critical environmental concern, this area preserves GRSG habitat next to potential ACECs found to have relevance and importance. This area would be managed to ensure consistent GRSG management and conservation across the landscape.

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